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THE BUILDER

ILLUSTRATIONS.

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Detail Elevation, Royal College of Science ..... Mr. Aston Webb, R.A., Architect.
"A Translation" ..... By the Editor.
A Genoese Doorway ..... Drawn by Mr. A. C. Conrade.
Grotto, Palazzo Podestá, Genoa ..... Drawn by Mr. A. C. Conrade.
Abbey of St. Victor, Old Paris ..... Drawn by the late H. W. Brewer.
Interior of Westminster Cathedral ..... Drawn by Mr. Roland W. Paul.
Electra House Finsbury: principal elevation ..... Mr. John Belcher, A.R.A., Architect.
Electra House Finsbury: general view and detail ..... Mr. John Belcher, A.R.A., Architect.
The Orleans Railway Terminus, Paris ..... M. Laloux, Architect.
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The Registration Question and the Institute.

AT the general meeting of the Institute of Architects on Monday next, the following three resolutions are to be proposed:—

"1. That this Institute is in favour of the general principle of the compulsory examination and registration of architects.

2. That a committee be appointed to consider what steps should be taken to give effect to this principle, and to report thereon to a special general meeting before the opening of Parliament.

3. To nominate this committee."

We regard this as a very unfortunate commencement of the new year in the architectural world. It may be observed that the movement is essentially a provincial one. One London architect, Mr. G. A. T. Middleton, is included among those bringing forward the resolutions; he, as our readers are probably aware, has from the first been closely connected with a society which was formed for the avowed purpose of promoting the registration of architects, and which has over and over again brought forward unsuccessfully a Bill in Parliament to attain that end. The other promoters of the resolutions are the Presidents of the Leeds and Yorkshire Architectural Society, the Manchester Society of Architects, the Liverpool Architectural Society, and two other gentlemen who represent respectively the Cardiff, South Wales, and Monmouthshire Architects' Society, and the York Architectural Society. This is, therefore, in fact, a movement to impose upon the central society a principle which the leading London architects are known to disapprove of, at the bidding of the provincial architects, and by a vote in which numbers will count more than names.

Of course we have no intention of casting any slight upon provincial architects as such; we have every reason for the contrary feeling; nor, in any case, are they unanimous on this question, since we know of provincial architects who are coming to the meeting on purpose to vote against the resolutions. But in the first place, it can hardly be denied that most of the leading and most gifted architects of the day are to be found among the London fraternity, and genius and position ought to count more than numbers; in the second place, a large proportion of provincial architects are carrying on practice under conditions which naturally lead them to attach a good deal of importance to what may be called the business side of architecture. They have not the large practice and consequent emoluments which a London architect who is at all successful can secure, and they think that their more modest income is further curtailed by the builder or auctioneer who calls himself "architect."

The feeling is natural and excusable—*oportet vivere;* but it is not taking a very high view of the objects of the architectural profession. Nor do we believe that registration would make any practical difference in the case. The builder would still act as an architect for the kind of

people who are content with that sort of practitioner; he would only be precluded from using the ornamental title. There are those, however, who profess to think that they are going to raise the status of the architect by making the use of the title unlawful except under legal sanction. Our impression is that this demand for registration will only be regarded by the most discerning portion of the public as a confession of weakness.

The question has been raised whether architecture is an art or a profession, to which the almost inevitable answer in the present day is that it is both. Taking it as an art, it may be compared in that sense with sculpture. Any eminent sculptor who passes along Euston-road may see there, as well as in many other parts of the town, the announcement "sculptor" over the shops of mere carvers, who could not produce sculpture in the highest sense of the word; and the carver puts the same word on his trade cards. But we have never heard that Mr. Brock or Mr. Gilbert have thought of applying for a legal injunction to restrain these men from using the word "sculptor," or are haunted by any idea that their position is endangered by the fact. Then take architecture as a profession, and compare it with engineering, which is a pure profession, entirely unadulterated with art. On that account registration might be far more easily and simply applied to engineering than to architecture, since an engineer's required knowledge is of the kind which really can be tested by examination; and if it is argued that registration of architects is a necessity for the safety of the public, it is far more implicitly so in the case of engineering, which deals with larger and more complicated structural work, on which more lives depend. Yet the engineers have never made any demand for registration; like the sculptors, they do not seem troubled by the fact that gas-fitters and other such persons take on them the title of "engineer"; they have succeeded in making it necessary that every engineer who aspires to a good position should become a member of the Institution of Civil Engineers; that is sufficient for them, and that is accepted by the public as a sufficient guarantee.

This is so because the engineers are a united body. All that is necessary for architects and for the public is that there should be the same general recognition of the Institute of Architects as a body to which every architect of good standing should belong. This is only prevented by the unfortunate differences and cliques in the architectural profession; and it is rather curious to reflect that while the few eminent architects who refuse to belong to the Institute are those who are most opposed to registration, it is exactly by their aloof position that the Institute is weakened in its opposition to registration. It is the Institute which would stand between them and registration, if they gave it their support, which, with a very short-sighted policy, the motives of which are mysterious, they have refused. If the movement on Monday is successful, it will be to a great extent, though indirectly, their fault.

Whatever may be the result of the voting on Monday evening, we have no doubt of two things—first, that the men who regard architecture mainly as a business will vote for the resolutions, while the majority of those who regard it mainly as an art will vote against them. Secondly, that if they are passed, a step will have been made towards reducing architecture to a business, and the Institute to a trade union, which it was never intended to be. The Institute of Architects was founded "for the advancement of architecture," an end which will not be furthered by any Registration Act.

THE RECENT EXCAVATIONS IN THE FORUM ROMANUM, 1898–1903.

BY MR. THOMAS ASHBY, JUNR., OF THE BRITISH SCHOOL AT ROME.

THE extensive excavations which have been going on during the last few years in the Forum, and which will, in all probability, be continued for several years more, have sprung from relatively small beginnings. A small committee was appointed in 1898 to examine and classify the architectural fragments which had been discovered in the course of previous excavations, but which had not been arranged in any order, and were often some way removed from the buildings to which they really belonged. The completion of this work would, it was thought, make it possible to restore any buildings of which there were sufficient remains to make reconstruction certain. But before the work had gone very far it became clear that further excavation was urgently necessary before it would be possible to proceed to reconstructions which would have any chance of being correct. In fact, Professor Lanciani had only in the previous year ("Ruins and Excavations of Ancient Rome," p. 240) written as follows: "It is necessary to remind the reader that the excavations of the Forum and of the Palatine have nowhere been carried to the proper depth. We have satisfied ourselves with laying bare the remains of the *late* Empire, without taking care to explore the earlier and deeper strata."

Compare the *Journal of the Royal Institute of British Architects*, series iii., vol. viii., No. 2, p. 25: "Former excavations, including those in which I have had a personal share since 1870, have always stopped at the higher level of ruins. As soon as the pavement of a street, of a house, of a public building was exposed to view we were asked to stop, without being able to ascertain whether under those structures of the late Empire there were deeper and older strata of even greater archæological interest."

The result was that, in the first period, little was done in the way of rebuilding beyond the re-erection of two of the columns which stood upon the row of seven brick bases opposite to the Basilica Julia, and of the epistyle of the small shrine at the entrance to the Atrium Vestæ. Attention was turned to excavation, which almost at once produced results of surprising interest. The discovery of the "lapis niger" in January, 1899, aroused general attention, and ever since that time the work has been carried on without intermission. Comm. Giacomo Boni has been in charge from the first, and has shown unwearying energy and perseverance. The work is carried on with great thoroughness, and the exploration does not stop until the undisturbed strata have been reached. If there is any complaint that can legitimately be made it is this, that the official reports and plans of the excavations are somewhat slow in appearing. Considering the world-wide interest which they excite, more might be done to satisfy the natural curiosity of scholars and to render the ruins easier to study. Those foreigners who are fortunate enough to be able to watch their progress have not the knowledge of details which would permit them to attempt in any way to anticipate the reports in the *Notizie degli Scavi*; nor, indeed, would it be etiquette for them to do so.

I cannot hope on the present occasion to give more than a general account of what has been done; those who desire to study the subject in more detail may be referred* to the *Notizie degli Scavi* and the *Bullettino Comunale* (both since 1898 *passim*), to a very useful article of Professor Hülsen's in the *Römische Mittheilungen*, 1902, p. 1 *sqq.*, to frequent "Notes from Rome," by Professor Lanciani, in the *Athenæum*, and to a series of short papers by the present writer in the *Classical Review*.

It will perhaps be best to begin our survey at the north-west end of the Forum, just below the Capitol. Some slight traces of the *podium*, or solid base, of an earlier temple of Saturn have been discovered, and also the remains of a drain which ran beneath the flight of steps which ascended to it. In front of the Temple of Concord a whole network of drains, of various ages and types and at various levels, has been unearthed. This space was known as the *Area Volcani*, and here is the primitive altar of Vulcan, from which it took its name—a roughly squared mass of natural tufa rock, about 13 ft. by 9½ ft. by 4 ft. high. The south-east edge of the *Area Volcani*, which was paved with chips of red tufa rammed hard, is marked by a step and a gutter, both in blocks of tufa.

The problem of the Rostra now claims attention. The Rostra of the Republic are to be found close to the inscribed stele, of which more will be said later. But a row of eight small arched chambers, a little to the west of the altar of Vulcan, has been supposed by Signor Boni to be the Rostra of Julius Cæsar, to whom the change in the position of the Rostra is attributable. This view has, however, not been generally accepted; from the style of their construction (in *opus incertum* coated with coarse white cement) it is probable that they belong to a considerably earlier date, and are simply the support of the Clivus Capitolinus. The very latest theory on the subject is that of Professor Otto Richter. Behind the rectangular structure, which is generally known as the Rostra of Cæsar, there is a curved mass of concrete about 80 Roman feet in length, faced with slabs of *porta santa* marble, which are divided by pilasters of *africano* marble. This was supposed by Nichols

* No attempt is, naturally, made to give a complete bibliography; the literature of the subject is already assuming considerable proportions.

to have been the Græcostasis of the period just before Julius Cæsar; but Richter's view, that it was later in date than the Rostra in front of it, had been generally, though not universally, accepted. He has finally, however, acknowledged the justice of Nichols' view as to the relative date of the two structures, and now inclines to suppose that the curved one (generally spoken of as the "hemicycle," though it is really only about one-sixth of a circle) is the Rostra of Julius Cæsar, the rectangular structure being attributable to Trojan or Hadrian.

One great objection seems to be that the available space on the highest point of the "hemicycle" (which is approached by steps from behind) is almost too narrow; the platform of the Rostra would only have been 6½ ft. in depth. But the subject requires further consideration.

At the south-west end of the "hemicycle" the foundations of the Schola Xantha and of the Arch of Tiberius have been discovered; but from an architectural point of view they call for no remark, except that it is noticeable that this arch (like some other Roman triumphal arches) was not erected across a road, and was not traversable except by foot passengers.

Excavations round the Arch of Septimius Severus (to which, in its original condition the same remark applies) have revealed remains of early structures in red tufa, and have shown that, contrary to what is normally the case in Rome, the level of the ground was lowered in the fourth century A.D., when the equestrian statue of Flavius Julius Constantinus was erected.

Not far from the Arch of Severus a group of monuments has been discovered, which surpass in interest any that the present excavations have brought to light. First in importance, and in date also, according to the latest writer upon the subject,* is the inscribed stele, which has already become famous, and been the subject of many articles and much discussion—the net result of which seems to be that, although it is legible enough, the Latin is so much more archaic than any other specimens that we have that only one word of it can be made out with any degree of certainty, and that is *recei* (the dative of *rex*); but we have Mommsen's authority for saying that the reference is not, as had generally been supposed, to the ritual representative of the regal office in Republican times, but to a real king—though a protest must be entered against the assumption that any proof is thereby given of the credibility of the traditional history of Rome. The most "revolutionary" critics never denied (in fact, they emphatically stated) that the constitutional history of Rome presupposed the existence of *kings*, and the inscription has given us, so far, no further information in regard to them than we possessed before.

Next in order of date follows a low platform approached by steps, which was probably the Rostra of Republican days, and after that come the remains of an erection of the nature of an altar (possibly the centre of the cult of the dead Romulus), which has a different orientation.

The "tomb of Romulus," which presupposes the existence of this altar, by which its back side is masked, corresponds in the form in which we see it with the description of what was still visible in the last century B.C.—a shrine guarded by two statues of recumbent (?) lions, the bases of the pedestals of which, with their simple base moulding, have been discovered. These are attributed by Professor Studniczka to the beginning of the fourth century B.C. Above, and differently orientated, is a pavement of slabs of black marble, connected with the pavement of the Comitium of the time of Julius Cæsar, but which has probably been relaid, having been originally placed there some time earlier, in connection with the pavement of the Republican Comitium.

The Comitium (the space in front of the Senate House, originally used for assemblies of the citizens) has been explored down to the untouched soil, and many different strata have been distinguished—among the lower of these a layer of roof tiles, which probably date from a period just anterior to the invasion of the Gauls, being the débris of buildings destroyed by them.

We next come to the Basilica Æmilia, which occupied the whole of the north-east side of the Forum proper—an immense building, with a south-west façade nearly 360 ft. in length, which consisted of massive pilasters of blocks of white marble, supporting arches of 17½ ft. span.

At the south corner there was a kind of projecting porch of one intercolumniation; whether a similar structure existed at the north-west end of the façade cannot be determined, as the north corner of the building has been much destroyed and modified. It is further noticeable that the north-west side was not at right angles to the south-west side, but was skewed in order to make it parallel to the side of the Curia, which has a different orientation. The central nave had a breadth of 39½ ft., with an aisle on each side 16½ ft. in width; its length has not yet been determined, as the building is not completely excavated. It had two orders of columns of *africano* marble, with Corinthian capitals of white marble. The pavement, of fine slabs of marble, is still well preserved, and is remarkable for the thousands of molten bronze coins which were found upon it. The whole building, in fact, bears clear traces of destruction by fire; but it has further been ransacked in the Middle Ages by seekers for building materials, and, though we have sufficient architectural fragments to be able to form some idea of its magnificence (the beauty of the ornamental details in the cornices and friezes is most remarkable), the condition in which the building was found was unexpectedly disappointing.

It is worthy of notice that any deductions with regard to the technique of early Roman masonry which have been drawn from the construction of the Cloaca Maxima must be treated with caution. What has hitherto been attributed to the period of the Kings* is only the third in date. It passes under the Argiletum (the street between the Curia and the Basilica Æmilia), then runs parallel to the façade of the latter for some way, then turns southward to cross the area of the Forum. At the point where it turns, a cloaca, which runs under the basilica at right angles to its axis, falls into it; and this in turn blocks up an even earlier cloaca, which runs obliquely beneath the basilica, and which has not been traced for any distance as yet.

Beneath the central area of the Forum a network of subterranean galleries has been discovered, which, as Comm. Boni supposes, served for the storage of "properties" in connection with the games and shows held in the Forum; there has also come to light a large concrete base, which perhaps supported the equestrian statue of Domitian described by Statius.

Not far from the Basilica Æmilia, just to the south-east of the temple of Antoninus and Faustina, the prehistoric necropolis, of which so much has been heard of late, has been discovered. These tombs so far identified (though not all of them have been as yet explored) are twenty-one in number. The older interments are those which contain cremated ashes; these are, as a rule, placed in an urn—often a hut urn of the usual Latin type—which, with several smaller pots, is enclosed in a large dolium with a stone cover, which is itself placed in a round hole dug in the ground, and covered with the ashes from the funeral pyre and a small heap of lumps of tufa. In the later inhumation burials the body of the deceased is placed in a rectangular trench (several of them are tombs of infants, who were buried within a portion of the trunk of an oak), and with it pottery, which begins to show traces of Greek influence; whereas that in the cremation tombs is purely Latin, resembling as closely as possible that which is found in the cemeteries of the Alban Hills and upon the Esquiline.

The necropolis belongs, without doubt, to the inhabitants of one of the neighbouring hills—in all probability the Palatine—and must date from a very early period in the history of Rome. Very full reports will be found in the official publications.

Close to this cemetery is a building which has been labelled as a prison by its discoverer, but a difficulty has to be dealt with. No ancient author mentions the existence of a prison in this place, which is in itself a strong argument against the identification; and the idea that this series of small chambers on each side of a narrow passage, each with its door sunk partly below ground level and lighted by a small window, served as strong rooms for the jewellers who had their shops on the Sacra Via, seems to have more in its favour.

We now ascend south-eastwards, towards the Arch of Titus; and here the recent excavations have disclosed the pavement of the Sacra Via of the early Imperial period, winding up the slope of the Velia and flanked by buildings on each side. The steps of the Temple of Venus and Rome are actually built upon it, so that the erection of this building must have led to a change in its course. It is not *necessary* to suppose that the

* Professor Fr. Studniczka, in *Jahreshefte des Oesterr. Arch. Inst.*, vi. (1903), pp. 129 *sqq.*

* My remarks apply only to the portion which crosses the Forum; the rest has not been investigated in the light of recent discoveries.

Arch of Titus ever spanned this road; but it is not probable that it occupied its present position when the road was in use, as its concrete foundations rest upon the pavement of a road which runs from the Sacra Via up to the Palatine, and which is about 7 ft. below the top of the foundations on the north-east side. Either, therefore, it was moved by Hadrian when he built the temple, or the earlier Sacra Via which we now see was abolished (in part, at any rate) when the arch was built.

The Convent of S. Francesca Romana, which is built upon the remains of the Temple of Venus and Rome, is now being restored, and its fine fifteenth century cloister brought to light. When the work is completed, it will be used as a museum to contain the objects found in the Forum excavations.

We may now retrace our steps, and examine the buildings on the south-west side of the Sacra Via.

The Atrium Vestæ has been further investigated, and much has been learnt of the plan of the earlier Atrium which underlies the building as restored in the time of Septimius Severus. This earlier building was (like many others which have been recently discovered) orientated according to the points of the compass. It is, in fact, not impossible that the Forum of the early Republic ran from north to south—from the Comitium towards the north-east corner of the Palatine; but the question is too complicated to be discussed here.

The Temple of Vesta and the Regia have both been further investigated, and various points of interest in regard to their architectural history have come to light. A very full and well-illustrated report on the former will be found in the *Notizie degli Scavi*, 1900, p. 159 *sqq*.

Another group of remains of great interest lies between the Atrium Vestæ and the Temple of Castor. I refer to the spring of Juturna and the buildings connected with it.* The spring was at first made to rise in a large basin paved with slabs of tufa, which was afterwards replaced by a smaller one lined with marble; in the middle of it is a pedestal which supported statues of Castor and Pollux with their horses—for it was at Juturna's spring that they watered their horses after the battle of the Lake Regillus, as the legend tells us.

Close by is a well, which was no doubt at one time fed by an independent spring, but later was supplied by a pipe from the basin; and behind it again is the shrine of Juturna, a small brick building facing north, in which her statue was erected.

The preservation of the whole of this group of buildings is remarkable, and it is perhaps the most attractive corner of the Forum; the statues, the bases decorated with reliefs, the inscriptions in honour of the goddess have all been found, and one can realise the Roman period more vividly than usual.

Hard by is the Temple of the Great Twin Brethren, which now stands free on all four sides. One may admire the massive construction of the walls, of blocks of squared stone, which inclose the solid concrete core; and some splendid fragments of the columns and entablature have been brought to light, including the corner of the pediment at the back.

Close by there stood, till a few years ago, the modern church of S. Maria Liberatrice—remarkable only as a landmark to the visitor to the Forum, now entirely swept away. The ground has been excavated to a depth of 50 ft., and a group of buildings of especial interest has come to light. The great brick shell, already known (and rightly) as the Templum Divi Augusti, has been cleared down to the ground level, without, it is true, much result; but behind it, right under the Palatine, and forming an integral part of it, are two large halls, the original use of which is uncertain.*

The group dates, in all probability, from the time of Domitian, who is known to have rebuilt the temple; but the use of the two halls at the back is doubtful. It is probable, however, that Professor Hülsen's conjecture should be accepted—that the outer hall, which was vaulted, was under the protection of Minerva, and contained the discharge certificates (*tabulæ honestæ missionis*) of the soldiers of the Empire.† The inner hall, which was a peristyle, open to the air, in the centre, with colonnades and rooms round it, he identifies with the library which is known to have existed in connection with the temple, and of which, further, Minerva would be the natural patroness.

From these halls a great inclined plane covered by a vaulted roof ascends to the Palatine in four flights.

These two halls were converted into a church at some time after the middle of the sixth century, and contain paintings of great interest. Three strata may be distinguished in places, ranging from the end of the sixth to the latter half of the eighth century, but those of latest date are by far the most numerous. They have been fully described by Mr. Rushforth in *Papers of the British School*, vol. i. It may be noted that he, writing before the publication of Professor Hülsen's conjecture, inclines to consider the two halls, taken together, as (perhaps) a building for state purposes, pointing out the similarity of its plan with that of the ordinary Roman houses, with its vestibule, atrium, and tablinum flanked by two smaller rooms beyond.

The paintings give us definitely the name of the church as S. Maria Antiqua, and thereby put an end to a long controversy; for the existence of the church has been known since 1702, though only a small portion of it was excavated in that year.

From the short summary I have given, which cannot pretend to be exhaustive or complete, though, I hope, in the main correct, as far as it goes, some idea may be formed of the amount of work which has been done in the Forum during the past five years, and of the surpassing importance of the additions to our knowledge which it has brought. It will be some time before the excavation of the land already at the disposal of the authorities is completed, and further discoveries of interest may be confidently hoped for; while as long as Comm. Boni remains in charge one may be sure that the work is in good hands.

T. A.

* A full report will be found in *Not. Scav.* 1901, p. 41 *sqq*.

* They stand upon the site of earlier buildings, which probably belonged to the palace of Caligula. The remains of a large open water tank, once lined with marble, are especially noticeable.

† The copies of these (of which several exist in various museums) often state that they are *descripta et recognita ex tabula ahenea quæ fixa est Romæ post templum Divi Augusti ad Minervam*

WORKMEN'S COMPENSATION CASES.

THE Court of Appeal at the close of the sittings was engaged in hearing some thirty-six appeals under the Workmen's Compensation Acts, and the law under these complicated statutes seems hardly more settled than it was five years ago. The Legislature is now contemplating an extension of the Acts, and it is to be hoped some simplification will be attained. Several of the recent decisions have some bearing on the building trade, and are worth a brief review.

In McCabe *v.* Jopling and Palmer's Travelling Cradle Company (the *Builder*, Dec. 19), Jopling, a builder under contract to paint a house over 30 ft. high, entered into a sub-contract with the Palmer Company to fix, adjust, and remove the travelling cradles, a system of jibs, ledgers, and ropes which constituted a scaffolding. After the painting was completed about a month, one of the Palmer Company men was killed in removing their apparatus. Jopling was admittedly liable to pay compensation, since it has now been definitely decided that painting is "repair" within the meaning of the Act, but the question of difficulty was whether, under section 4, Jopling could claim indemnity from the Palmer Company. It was contended that the Palmer Company had nothing to do with the "repair" under their sub-contract. The Court held, however, that taking down the scaffolding was part of the process, and it is important to observe that the Court also negatived the idea which has crept in that the repair must be substantial, and laid it down that it must be substantive as contrasted with ancillary, but not necessarily substantial. This decision is important rather in view of former decided cases than on the words of the Act, since section 7 expressly applies its provisions to construction, repair, or demolition "by means of a scaffolding," and the erection and removal of the scaffolding appear obviously included in the process. We have commented several times on the question whether a ladder by itself constitutes scaffolding (see the *Builder*, June 21, 1902; May 3, 1903), as the cases are very conflicting. In Elvin *v.* Woodward builders' steps with a flat board on the top were held to come within the definition, but this time, in Crowther *v.* West Riding Window Cleaning Company, the Court of Appeal refused to disturb the finding of the arbitrator that a simple ladder on which a man stood for the purpose of whitewashing was not scaffolding.

In the case of Brown *v.* The Midland Building and Supply Company an attempt was made to bring a bricklayer, who was injured whilst building a house under 30 ft. in height, within the Act,

on the double ground (1) that machinery driven by steam or other mechanical power was being used, under section 7 of the Act; (2) that under the Act, read in conjunction with section 105 of the Factory Act, 1901, all the premises were constituted a factory where machinery was used. The machinery relied upon was a mortar mill on the building estate, but this was 80 yards in a straight line from where the man was working, and the mortar when made had to be brought to him a greater distance by road. The Court decided against both grounds of claim. Against the first because the machinery was not "on" the building on which the man was engaged, and against the second on the authority of the case of McNicholas *v.* Dawson (1899), because it is only the machinery which is made the factory, and the man in the case under consideration was not engaged on, in, or about the machinery.

Two other cases, Higgins *v.* Campbell and Morrison and Turvey *v.* Brintons Ltd. should be noted. The Court has decided that anthrax contracted in the course of a man's employment is an accident within the meaning of the Act. This decision is based on the judgment of the House of Lords in the case of Fenton *v.* Thorley and Co., commented on by us in our issue of August 22 last. In that case it was pointed out in the House of Lords that the title of the Act was "an Act to amend the law with respect to compensation to workmen for accidental injuries in the course of their employment," and that in section 1 the words also were "personal injury by accident arising out of and in the course of the employment"; and accident was defined, not as in the cases decided by the Court of Appeal, with reference to the fortuitous, but as an unlooked-for mishap or an untoward event which is not expected or designed. The effect of the decisions now given by the Court of Appeal is this, that when the illness arises out of the employment itself, and is incident to that employment, then it is an accident within the meaning of the Act. This decision, although apparently not directly connected with the building trade, may have a widespreading influence where certain operations involve the risk of illness, such, for instance, as lead poisoning. Difficult questions will arise where it can be shown that the state of health of the workman contributed to the disease; but, as far as can be seen, the employer will remain liable unless he can conclusively prove that the condition of the workman was the actual cause of the illness.

JAPANESE GLASS INDUSTRY.—In a report on industrial development in Japan, the Consul-General of the United States at Yokohama mentions that the native glass industry now manufactures for export as well as supplying home demands. The Japanese Government has under consideration a scheme for subsidising a company to train workmen for the manufacture of plate glass. The plan calls for an expenditure of about 53,000*l.* during the next four years. It is proposed to select a factory, which will be under an engagement to employ a foreign expert, and construct, under his supervision, two furnaces of the latest style, each with a capacity of at least 470,000 square feet of plate glass a month; also to employ thirty-two foreigners as trainers of Japanese workmen, and train sixty-six workmen for its own use and fifty for the Government service.

NOTES.

Proposed Memorial to Mr. Penrose. IT has been proposed that a memorial to Mr. Penrose should be erected at Athens, with which city and its priceless monuments his name and fame have been so much connected. A large and influential committee has been formed to consider the best manner of carrying out this proposal, and it has been suggested, and the idea has been approved by the committee, that a library hall, which would also be available for use as a lecture-room, should be added to the building of the British School at Athens, where the want of such an addition has long been felt, and should be called the "Penrose Library" or the "Penrose Hall"; and that in this library there should also be erected, or fixed against the wall, a special memorial consisting of either a bust of Mr. Penrose on a suitable pedestal, or (which is the idea most favoured), a medallion portrait in relief, within a decorative tablet with an inscription. Mr. Penrose was a man well worthy of a permanent memorial, both in respect of his personal worth and of the importance of his researches in regard to Greek architecture. His "Principles of Athenian Architecture," which is practically a monograph of the Parthenon, we have always felt to be the most remarkable publication of that class which has appeared in this country. Those who are desirous to give their practical support to the scheme are invited to send subscriptions to Mr. G. A. Macmillan, the Hon. Secretary to the Committee, at the offices of Messrs. Macmillan and Co., St. Martin's-street, Leicester-square.

The London Water Arbitration. THE Court of Arbitration on the London Water Companies will resume its sittings on January 18. It had up to the commencement of the Christmas vacation proceeded on the whole both rapidly and satisfactorily with its work. On the last day of the late sittings the Court awarded to the Grand Junction Company 3,349,500*l.*, as against a claim of 4,863,195*l.*, and to the West Middlesex Company 3,524,000*l.*, as against a claim of 4,305,245*l.* Roughly speaking, each claim was reduced by about a million, a reduction of a very substantial amount, or nearly one-fourth—but a reduction not excessive as compared with awards in ordinary claims for compensation. The result in the interests of the public can scarcely yet be properly considered until the arbitration is completed, and the total capital of the Water Board is definitely ascertained. It is clear, however, that on the expense of management there should be a considerable saving, but, having regard to the quotations on the Stock Exchange, the amount to be paid in interest on the capital of the Water Board will not permit of any appreciable reduction of the water rates to the consumer.

The London County Council Works Department. THE report of the Works Committee of the London County Council for the half year ending September 30 last is more satisfactory than has been the case for some time. We have always held that very adverse criticism on this department of the County Council could not be fully justified without a much larger knowledge of the facts connected with that department than is possessed by the public. But from time to time it was clear that there were certain weak places in the system. On the present occasion, on the face of the report, no fault can be found with this branch of the County Council's administration. While the approximate expenditure on works executed by the department in the half year was 187,000*l.*, the result showed a balance of cost below final certificate of 25,853*l.*, and also that nineteen out of twenty works have been carried out at a cost below final estimate. Naturally, this criticism may be made, that if the estimate is high, the actual cost may very well come out below it. When opponents of the County Council urged that the cost of work was constantly exceeding estimates, we pointed out that it did not necessarily follow from this that the cost had been unreasonable. We take it, however, that the officials of the Works Department are now carrying on their business with greater knowledge and experience than formerly, and it is certainly preferable that the final cost of a work should be less than the estimate, for it is on the estimate that the decision to proceed with work must be taken.

Scheme for Another Nile Dam. ALTHOUGH the Nile Reservoir Works have already shown their great utility, the volume of water stored is admittedly insufficient for the wants of Egypt, and various proposals have been discussed from time to time for further increase of the water supply. The latest idea emanates from Sir William Willcocks, formerly Director-General of Reservoirs, and his present scheme is to provide the necessary accommodation within the boundaries of Egypt proper, leaving the irrigation of the Soudan to be accomplished by the utilisation of the equatorial lakes. Using round figures, it may be said that the storage necessary for the perennial irrigation of the whole of Egypt is 1,000,000 million gallons, of which less than 250,000 million gallons can be stored in the Aswan reservoir. Sir W. Willcocks proposes to make up the deficit, which we may put approximately at 750,000 million gallons (1) by raising the Aswan dam to its full height by adding twenty feet of masonry, and (2) by the construction of a new reservoir in the depression known as the Wady Rayan, the site formerly suggested for a reservoir by Mr. Cope Whitehouse. The second item of this programme is quite free from objection, but the first would obviously involve a deeper submersion of the Philæ Temples at the maximum level of the Aswan reservoir, a proceeding which could not be justified unless proved to be absolutely and unavoidably necessary for the welfare of Egypt.

Accidents on the Central London Railway. ABOUT three months ago we called attention to two accidents which occurred at the Bank and British Museum stations of the Central London Railway. Our readers will remember that on this occasion a train at each of these stations was derailed during the same day owing to the carriages having jumped the metals,

and that, in consequence, there was a serious dislocation of the traffic. We then pointed out that there must be something radically wrong with the construction of the permanent way, and this conclusion is confirmed by two accidents which took place on Monday last at the same stations. The first of these happened shortly after three o'clock, when an empty train, which was being shunted at the crossover road beyond the Bank Station, came to a standstill through one of the carriages having jumped the metals. The second accident occurred at the British Museum Station between five and six o'clock in the evening, when a motor coach and the vehicles following left the rails. Fortunately, nothing more serious resulted than dislocation of the services and inconvenience to passengers; but these repeated accidents at the stations in question constitute perfectly clear evidence of defects that ought not to exist on any properly-managed railway. It is a curious coincidence that on each occasion the accident at the Bank Station should have been followed by a similar mishap at the British Museum.

The Connellsville Railway Disaster.

ALTHOUGH full particulars are not yet forthcoming relative to the serious disaster which occurred a few days ago on the Baltimore and Ohio Railroad, the main facts are tolerably clear. The eastward-bound express was running at a high rate of speed along an embankment at the side of the Youghiogenny River, when suddenly it ran into a pile of bridge timbers which had fallen from a goods train. It is said that a curve in the line prevented the engine-driver from seeing the obstruction until he was quite close to it. This is a very reasonable excuse for the driver, but it is very difficult to understand how so bulky an obstacle as a load of timber could be dropped upon a railway line without the knowledge of the men in charge of the freight train. If such an accident were to happen on any English railway we feel sure it would not escape attention, and the first thing done would be to give warning of the event, so that the line might be closed to approaching traffic. We cannot imagine why a similar course was not taken in the present case, unless the interval elapsing between the fall of the timber and the arrival of the express was so short that no kind of a warning was possible. Some further information upon this point is certainly desirable. In the meantime it is satisfactory to note that the baggage-master of the express, although somewhat seriously injured, managed to save the approaching westward-bound train by setting fire to his coat and using it as a signal.

The Chicago Theatre Fire.

THURSDAY morning's papers brought the news of an awful theatre disaster at Chicago, owing to the scenery of the new Iroquois Theatre catching fire. It seems that at least five hundred people have been killed, but whether their deaths were mainly due actually to the fire or to crushing and suffocation is not very apparent from the first brief account. It seems evident that there was a hopeless panic. What it is important to know is how it came about that a new theatre supposed to be built with all the latest improvements had, as is stated, no means of fire-resisting separation between the stage and the auditorium. It may be that such means existed, and that the employees lost their heads and neglected to drop the curtain. Further information on this point will be anxiously waited for by those who are interested in providing against the apparently endless danger from fire in theatres.

The Magnetic Records at Kew.

PECULIAR interest attaches to the results of the analysis of the Kew magnetographs during the eleven years from 1890 to 1900, by Dr. Charles Chree, the superintendent of the observatory department of the National Physical Laboratory, from the fact that these records can now no longer be taken owing to the disturbing effect of the Brentford to Kew electric tramway. The lengthy paper which has just been published by the Royal Society will for many years be the classical paper on the phenomena of the earth's magnetism. The years from 1892 to 1895 were conspicuously years of sun-spot maximum, while 1890, 1891, and 1900 were years of very few sun spots. By analysing the variations of the magnetic elements from month to month, and comparing the way they vary with the way the frequency of sun spots varies, he proves that there is a close connection between the two phenomena. At the same time we think that he conclusively disproves Sir Norman Lockyer's hypothesis of the connection between sun spots and meteorological phenomena. The figures he gives of the mean values of the meteorological elements at Kew during the three years of minimum sun spots, the three years of maximum sun spots, and the mean for the whole eleven years of the cycle of sun-spot frequency, are well worth quoting.

Period.	Mean temperature for the day.	Mean daily range of temperature.	Mean hours of sunshine.	Mean annual rainfall.	Av. wind velocity in miles per hr.
1890–1900	49·87 F.	13·68 F.	1521	22·36	10·21
1892–1895	49·48 F.	13·90 F.	1536	23·54	10·20
1890, '99, 1900	49·71 F.	13·83 F.	1584	21·31	10·20

In addition, the mean height of the barometer for the three periods was 29·978, 29·964, and 29·970 ins. respectively. The close agreement between the mean values for such comparatively short periods of years is very remarkable, and proves that there is no appreciable connection between sun-spot frequency and the weather. Unfortunately the analysis of the magnetic elements has not disclosed the true cause of magnetic storms, and it will be many years before the records which are to be taken at the new magnetic observatory in Scotland will throw further light on the subject.

The Artisan Theory of the Architect.

THE paper by Mr. Bankart on "Old Stucco and Plaster Work," read at a recent meeting of the Architectural Association, and reported in full in our last issue, valuable and interesting as it was in many respects, ought not to be allowed to pass without a protest against the view of the architect's position and function which was, indirectly at all events, put forward in it. Like some other people who have given special attention to one form of decorative work, Mr. Bankart seemed to think that the architect was to be reduced to a kind of artisan, working with his own hands on occasion, and chiefly occupied with the consideration of material and the modelling of it. That is a view of the function of the architect which in the present day is absurd. The architect's business is to evolve the whole idea and conception of a building, as plan and design, not to be occupied as a workman over this or that bit of material. That many architects fall short in their knowledge or perception of the character of material and of the special treatment proper to it we fully admit, but it is not necessary to work with one's own hands to attain this; it depends upon innate or acquired architectural feeling for material. But the architect's real business is with the evolution of a building, which in these days, when the requirements of plan are so complex, cannot be adequately done without full and exact drawings; and all this talk about the mischief of draughtsman's architecture, which we have heard over and over again, only shows a want of perception as to the real problem which the modern architect has to work out.

The Egyptian Hall, Piccadilly.

THIS building will be pulled down shortly, and Mr. T. Nevil Maskelyne, whose tenancy there has extended over thirty years, will remove his entertainment to St. George's Hall, in Langham-place, of which, together with two adjacent houses, he has acquired a forty years' lease, and where some structural alterations are being made for him under Mr. Edmund Buckle's superintendence. The Egyptian Hall was built in 1811-2 at a cost of 16,000*l*., after P. F. Robinson's designs, for W. Bullock of Liverpool, who there exhibited his natural history museum and a part of the Leverian collection. Robinson took the details of the façade from Denon's work, and mainly from the temple of Isis at Denderah; the figures of Isis and Osiris are by L. Gahagan. On May 1, 1890, Nos. 166-173, Piccadilly, comprising the Egyptian Hall (No. 170), and the Dudley Gallery, were sold at auction for 27,850*l*. The property, covering 14,477 ft. superficial, is held under three leases granted for seventy-five years by the Crown in 1830 at ground rents amounting to 388*l*. 3s. 6d. per annum. The existing underleases yield a total improved rental of about 2,800*l*. net. Our issue of January 3, 1903, contains an illustration of the Egyptian Hall with its original surroundings.

Reporters at the Institute.

ABOUT a year ago the Council of the Institute of Architects, for reasons which we do not understand, removed the reporters from their seats in front of the official table (the usual position, we may say, for those who have to report a meeting), and banished them to a table of their own in a corner of the room. The result has been that mistakes have got into reports of the proceedings such as would never have appeared under the old arrangement, when the

reporters were in the centre of the room and close to the table and to the front benches. Mr. W. Key seems to have been very much annoyed by the fact that we reported a speaker after Mr. Henman's paper the other day as mentioning "Mr. Keith," when it should have been "Mr. Key." Our reporter thinks that the speaker did say "Keith" inadvertently; at all events, he heard it so, and, if it was a mistake, it is entirely owing to the position now assigned to our reporter, from which it is often almost impossible to hear speakers correctly. As it is important that reports should be accurate, the Council should really consider the advisability of placing reporters where they have the best chance of hearing.

LETTER FROM PARIS.

A WELL-KNOWN corner of the Champs Elysées, the "Caffé appelé cy-devant des Ambassadeurs," built in 1792 by the citizen Dorne, on the site of a small building celebrated in the eighteenth century, is about to undergo some modification, and the present building is to be pulled down to give place to a larger and more modern place of amusement. The Municipality benefits by a very large sum for the rent of this piece of ground, for which the "père Dorne" paid an annual sum of 426 francs in his time.

The "Concours des Façades" has been so brilliant this year that the jury has not yet been able to come to any decision as to the award of the six premiums; twenty houses have been chosen from amongst the large number submitted for competition, and the jury find it a difficult matter to decide which are the most meritorious amongst those selected.

The State has acquired large pieces of ground at Vienna and at Washington for the purpose of erecting embassy buildings for the respective ambassadors. M. Bernier, the architect of the Opera Comique at Paris, will construct the embassy at Washington; and M. Chedanne, architect to the Minister of Foreign Affairs, that at Vienna.

The jury for the competition for designs for a "Caisse d'Epargne" and the restoration of the Hôtel de Ville, at Coutances, has awarded the first premium of 140*l.* to M. Lesage, architect, of Rouen.

A letter signed by the chiefs of the various studios of the École des Beaux-Arts, demanding certain reforms in the principles and organisation of the Prix de Rome competition, has been distributed amongst the professors and students of the École.

The work of the new line of the Metropolitan railway near the Mairie of the 20th arrondissement of Paris has, in spite of all precautions, so upset the foundations of the building that the walls are splitting in several places; the magnificent paintings by Glaize on the walls of the fine "Salle des Mariages" are completely spoiled.

The President of the Republic has signed a decree authorising the classing amongst the list of historical monuments appertaining to the service of Beaux-Arts the tower called "Carbonnière," situated on the territory of Aigues-Morte, at a few miles from the town of that name. The Carbonnière formed portion of the Abbey of Psalmodi, founded by Charlemagne.

M. Henri Marcel, Directeur des Beaux-Arts, has been commissioned to organise the section of fine arts at the Saint Louis Exhibition, in the place of M. Henri Roujon.

The jury for the competition for the programmes to be used in 1904 at the Opera has awarded the first prize of 40*l.* to M. Gorguet, and the second prize of 20*l.* to M. Debat-Ponson.

The Municipal Council have commissioned M. Bahut to produce a lithograph of M. Detaille's large composition at the Hôtel de Ville, representing the return of the Imperial Guard after the campaign in Poland in 1807. The same artist has also been commissioned to make a reproduction of the "Medea" of Delacroix.

At the École des Beaux-Arts the Prix Godebœuf has attracted no fewer than 200 competitors. "Premières medailles" were awarded to M. Boutin (pupil of M. Redon), M. Camille Lefèvre (pupil of M. Laloux), and M. Pierre Aubey (pupil of M. Scellier de Gisors). For the Achille Leclère competition, which is one of the most important of these art competitions, and which will be decided in March, the Académie has given as the subject "The staircase of a large museum, with a vestibule giving access to the ground and first floor galleries."

The Institut de France has received the promise of a splendid gift from M. Jacques Siegfried, who intends to offer them the Château of Langeais, one of the finest examples of French architecture of the fifteenth century, and which is quite a museum of French art of the time of Louis XI. The Institut has not come to any decision on the matter as yet.

Some years ago the construction of a tunnel under the Rue de Rivoli for one of the metropolitan lines compelled the removal for a few weeks of M. Fremiet's equestrian statue of Jeanne Darc, which had decorated the Place des Pyramides since 1873. The statue reappeared on its pedestal, after the tunnel work was over, so much transformed, that it was said that a new work had been substituted, though the sculptor declared that he had only altered the patina of the bronze and the harness of the horse. This explanation was generally accepted by those who did not notice that the action of the horse was different and that the rider was no longer a slender girl mounted on a heavy Norman horse. In reality the artist, with the complicity of the Directeur des Beaux-Arts, had played a trick on the public, and took the opportunity of the railway disturbance of the site to substitute for the first group a new one, which had figured in the Salon of 1890. The Press has been raking up the subject again, and the artist now admits the fact of the substitution, as there is nothing to be gained by denying it. The old work, with which the sculptor seems to have been displeased, has been destroyed under his orders. We cannot but think that he has made a mistake, and that the work erected in 1873 was much the more pleasing of the two. The artist seems to have had, in the interim, a new idea as to the probable personality of the heroine, and has in the later edition given her the appearance of a rather sturdy and masculine woman, instead of the graceful figure of his first statue. It may be more in accordance with probability, but it does not make so pleasing an object.

The Carnavalet Museum has received an addition of a fine picture by Troyon, illustrating the Château of St. Cloud. It is dated 1837, and was exhibited in the Salon of 1838, when it gained for the painter a "première medaille." It is placed in the Carnavalet, of course, from its historic value as a representation of the château in its complete state.

The Municipality of Paris intends to acquire the domain of Prince Talleyrand-Perigord at Montmorency, in order to build there an infirmary, which will take the name of "Asile de la Ville de Paris." The property, which includes the château and 126,000 square mètres of land, is to be sold for 825,000 francs.

ACTON PUBLIC OFFICES AND TOWN HALL COMPETITION.

THE rapid development of the metropolitan suburbs is nowhere more noticeable than in the western districts; with an estimated population of 50,000, large vacant areas suitable for smaller middle-class dwellings and excellent travelling facilities, Acton is quickly passing from the scale of a District Council to proportions more fitly represented by a Corporation administration, and this fact is evidently held in view in the proposal to erect new municipal buildings and town hall.

In the ordinary course of public procedure a competition in designs for the new offices, etc., became necessary, and, from a wide application to compete, seven architects of repute were selected, and we were invited to inspect the plans submitted.

We have had occasion to differ from the awards in recent public competitions, and we are again compelled to take exception to the selection made by the assessor in the present instance, Mr. J. Macvicar Anderson. In view of the attempts in late years to reform the conducting of competitions, we fear that we are not encouraging the system by this open criticism of the assessor's decision; it is to be regretted that no report accompanied his final statement, which would have thrown light upon the merits of the premiated scheme, and perhaps have silenced comment.

Design marked B, by Mr. W. G. Hunt, is placed first, and naturally attracts a close scrutiny in making a general survey of the work submitted. The first impression—the ultimate general effect—is at once unfavourable, for, judging by the perspective view (prepared since the publication of the award), a most unsatisfactory grouping of buildings has resulted. The principal note in the design is a large dome, which rises from a mysterious position, in irritable juxtaposition to the large gable of the Town Hall. Two heavy stone turrets or pinnacles rise from pedimented projections on either side of the main entrance, making an effort to bring the dome into the design of the municipal buildings, distinct from that of the Town Hall. The roof of the latter has a large independent ventilating turret, while, to add to the already disturbed skyline, an important ventilator to the council chamber roof and a chimney to the right of the entrance (neither of which find place on the scale elevations) have been introduced to enhance the composition. In detail, the architecture is commonplace, and is, indeed, a mere accumulation of features popular with architects a generation ago, arranged without sympathy for the Portland stone and red-brick materials to be used. Carved and moulded enrichments are employed to such an extent that clause 10 of the conditions, "the lavish use of ornament is to be avoided and a dignified architectural treatment is desired," seems to have been entirely overlooked. We understand that the assessor was responsible for much of the printed instructions, and therefore it is reasonable to suppose that the style of the fronts has not influenced his selection.

But the planning is even less successful, and we are at greater loss to discover the preferential factors in the scheme under notice. An angle main entrance is provided, with which is combined a drive for carriages (a useful arrangement generally overlooked in these drawings), but the existing Free Library will rob this approach of much of its apparent importance. We find that this entrance, which opens into the grand staircase of the municipal buildings, and, upon occasion, the Town Hall, is the only means of access to the rates office, placed to the left on entering, so that constant traffic arising from petty parochial payments is unnecessarily located in the most important part of the ground floor. The plan gives the curious information that this office will be a rates department by day and a cloak-room by night; but, as we understand it is now the custom of the Council to devote two nights in the week for late payments to suit the convenience of business people, the dual purpose to which the room will be put will lead to much inconvenience, not to mention the trouble involved in clearing the office. We failed to grasp which part of the building was intended to be served by this cloak-room. The lavatories, etc., and cloak-rooms, generally speaking, are arranged in a manner quite strange to our ideas. The report refers to the Town Hall being entered at the east end; here are men's and women's conveniences common to the large public hall, and to the suite of dancing and supper rooms, which we maintain are inadequate and inconvenient; staircases ascend left and right to the Town Hall, and are so planned that the two sets of water closets below are 4 ft. 8 in. high, whilst some of the solid steps are housed into windows One suite only of rooms for dances, suppers, etc., is provided in this design, while the conditions ask for two, including kitchens; there is no ambiguity about this requirement, and in our opinion the omission is utterly at variance with the terms of the competition. Two large rooms *en suite* are shown, but if only one is used for dancing, much inconvenience will arise about the doors; one large kitchen is supplied with gas cooking apparatus, which avoids carrying a flue through the Town Hall; but in any event the cooks, servants, and waiters will require sanitary conveniences, which we could not find on the lower ground floor plan.

We do not agree with the placing of the Town Hall next the main street (shown on the side street by all other competitors), through which heavy electric trams are hurrying all day and far into the night, nor is a middle

passage in the seating accommodation desired by public speakers. The water closets and lavatories placed at the ends of the side galleries are beyond all supervision, and unless prominently indicated, they may be taken for exits in an emergency. The majority of the Councillors will face strong daylight when seated in the Council Chamber. The placing of the Coroner's Court on the ground floor instead of the first floor, as required by the conditions, is, in our opinion, an improvement, but the transposition cannot be said to be one of the "slight modifications" allowed in the printed replies to questions. No separate room or convenience is given to the Coroner, and the Chairman's-room, although much smaller than asked for, has a very poor outlook. We could draw attention to other defects, but enough has perhaps been said to justify the emphatic exception which we have already taken to the selection of this design, the estimated cost of which is 52,946*l.*

Design marked A is the work of Mr. H. T. Hare. Here, as in common with the remaining competitors, the Town Hall is placed on the side street. In most respects the scheme has a practical working character, but it suffers from an undue effort to arrange the general offices in positions where street noises will not penetrate; corridors are, therefore, placed on two floors on the street side of the principal front, and offices overlook the baths and other buildings in the back parts of the site. This arrangement further adds to the extent of passages, which in this design are in large proportion to the working departments. The Coroner's Court is in a noisy place on the side street, and the rate collector's office too far into the building for ready access. The elevations are a great advance on those previously referred to, being satisfactory in detail and suitable in scale for the site. The estimate is the lowest—51,553*l.*

Mr. Maurice B. Adams is the author of design marked C, which is represented by an elaborate set of drawings, completely worked out; a separate drawing is given with designs for the groups of figures and other sculpturesque ornament. The scheme, however, is much too large (77,471*l.* is the estimate) and complicated for the needs of municipal Acton. The plan conveys the impression of being confused, especially in taking the great number of staircases into consideration, and the whole design lacks simplicity and is too laboured. Entrances and exits are well arranged, and all practical points have been considered. The plans provide for two suites of supper and ball rooms, kitchens, etc. (a pantry kitchen being also included), as required by the conditions, which, although adding to the complexity of this design, are here capable of a more simple treatment. The detail of the elevations is small in scale at the expense of breadth and dignity.

The drawings illustrating design D have commendable power and lucidity, in which respects they are foremost of the seven sets submitted. Messrs. Russell and Cooper, the authors, have produced a vigorous and dignified group of buildings, which is the outcome of a good symmetrical plan, and is well adapted to the nature of the site. Two sets of supper-rooms are provided, with kitchen accommodation common to both suites, but the lavatories and cloak-rooms are quite inadequate when only one suite is in use. The exit staircases from the Town Hall galleries are also intended to be used by artists in passing from the stage to the dressing-rooms—an arrangement giving rise to much discomfort to the performers at the close of a play. The Chairman of the Council has no private convenience, and no separate room is given to the Coroner. The main entrance is placed in the centre of the High-street front, above which rises a well-designed tower, but the piers shown on the plans do not seem to be strong enough for the work of supporting this tall erection. The Council Chamber, Committee rooms, and, indeed, all departments are admirably placed, and exits, stairs, and approaches well considered. 50,881*l.* is the author's estimate.

Messrs. Lanchester, Stewart, and Rickards have submitted a design, marked E, which would have well suited the site in the matter of scale. A good working office plan is shown, but the Town Hall and ball-rooms leave much to be desired. A separate carriage drive, with carriage porch, is introduced, which forms the entrance in joint use by the public for the Town Hall and by private parties, for the two suites which are placed left and right of the doorway; moreover the town hall stairs are mixed up with one of the suites. The greatest defect, however, is the extraordinary absence of lavatory and cloak-room accommodation. The drawings are less complete than others sent in, and show no regard for block plan, scales, or cardinal points.

A very ambitious scheme, F, to cost 84,688*l.* is the work of Mr. C. E. Mallows, and is represented by a fine set of drawings. Portland stone is intended to be used throughout the principal fronts, which we think is a little beyond the basis of one shilling per foot cube laid down by the Council. In spite of the great cubical contents the author omits one suite of dance and supper rooms, but provides lofty and wide halls and spacious passages out of all proportion to what is required. A heavy but dignified character is given to the fronts; the main entrance is placed in Winchester-street, and a large tower is introduced to emphasise that fact, but nothing in the nature of piers is shown on the first floor plan carrying the great weight above. The Coroner's Court is situated at the eastern extremity of the first floor, where it will be necessary for the Coroner to pass through the court to reach his retiring-room. The Council Chamber is not well placed, being at a different level and too far from the Committee rooms, but the most remarkable point in this part of the plan is that the Councillors approach their sanitary arrangements through the Council Chamber.

The plans which have most successfully interpreted the Council's requirements are those marked G, for, while providing all the accommodation required by the conditions, the authors, Messrs. Ardron and Dawson, have arranged it with considerable regard to economy, and have maintained a practical working efficiency. The estimate is 57,626*l.* The Town Hall is placed on the side frontage, well provided with public entrances and staircases; the emergency exits are, however, capable of improvement. Two suites of supper and dance rooms are well planned, each having separate and distinct entrances, kitchens, and conveniences. The Council Chamber is, however, placed next the side street, where noises might disturb the deliberations of the members more than if a central position had been contrived. The grouping of the buildings should be satisfactory, for although the style selected is not the best of those submitted, the elevations have considerable merit and dignity. This is the only design which appears to meet all the requirements of the Council's conditions, which further demanded their being "substantially adhered to."

The drawings, generally speaking, are of a high order, and each competitor receives 50*l.* as remuneration for his skill and trouble; but an enormous amount of wasted effort is occasioned by the eighth scale drawings, when in our opinion sixteenth scale sketches would have been sufficient to illustrate the intentions of each design.

REGENT-STREET, AND NASH'S IMPROVEMENTS; CARLTON HOUSE; PALL MALL; ST. JAMES'S-SQUARE; PALL MALL EAST; AND THE HAYMARKET: 1801—1900.

AT the beginning of last century the only direct way from the east end of Piccadilly to Oxford-street was by Swallow-street, a straight and narrow road of which the southern part remains (opposite St. James's church), and that entered Oxford-street opposite Prince's-street, Cavendish-square (Fig. 1). To the south lay Jermyn-street and St. James's-market, the market (built in 1666 for Henry Jermyn, Earl of St. Albans) being entered from Pall Mall by Market-lane along the west side of the Opera-house, and by St. Alban's-street from opposite Carlton House. An Act of 1799 (39 Geo. III., c. 74) had empowered one William Taylor, or in his default, the Lords of the Treasury, to make a new street 55 ft. wide, through the former Six Bells-alley, from the Haymarket, crossing St. Alban's-street into Charles-street, St. James's-square, for a better approach to the King's Theatre in the Haymarket. A more extensive improvement, advocated some fifty years before by Gwynn, took shape under an Act passed on July 10, 1813 (53 Geo. III., c. 121). That measure sets forth:—

WHEREAS it would be of great Accommodation to the Public, and be the Means of opening a more easy and ready Communication from *Mary-le-bone* Park and from the Northern Parts of the Metropolis in the Parish of *Saint Mary-le-bone*, to *Charing Cross*, . . . if a new Street were opened and made from a certain Spot in *Pall Mall* at or near *Saint Alban's* Street, to the South End of *Mary-le-bone* Park, . . . to run at right Angles with *Pall Mall* into *Piccadilly*, and from thence in a northerly Direction to the South End of Mary-le-bone Park . . .; and if Provisions were made for widening the East End of *Pall Mall*, and for continuing the same Eastward by a new Street into *Saint Martin's Lane*, terminating at the Portico of *Saint Martin's Church*; and for widening *Cockspur Street* from the South End of the *Haymarket* to *Charing Cross*; and for forming an open Square in the *King's Mews* opposite *Charing Cross*; and for continuing *Charles Street, Saint James's Square*, from the East End thereof, into the *Haymarket*: . . . be it enacted . . . That the Commissioners for the Time being of His Majesty's Woods, Forests, and Land Revenues, shall be and they are hereby appointed Commissioners for carrying the Purposes of this Act into Execution. . . .*

The Act of 1813, forty-two folio pages in length, provides for, with many other things, a revival of the Act of 1799 in respect of the extension of Charles-street eastwards, the preservation of Air-street as a thoroughfare, of George-court in Swallow-street, and of Archbishop Tenison's chapel (1702), now St. Thomas's church, in King-street; the widening of Swallow-street, lower end, to Leicester, now Heddon, street; the making of the western portion of Great Marlborough-street; a public carriage-way, 40 ft. wide, into the lower end of Marylebone, now Glasshouse, street, and an open footway, 10 ft. wide, from the Quadrant to Vine, now Warwick, street; the widening of King-street into St. James's-street, and of each end of Jermyn-street; the opening out of a direct communication from the north end of the intended new street through Portland-place (then blocked by the park railings at Nos. 36 and 37, since Nos. 90 and 75, respectively, three doors beyond Devonshire-street) into the park, and the opening of Harley-street, similarly blocked, into the park; the completion of a continuous road around the outside of the park; and the construction of a new sewer, in relief of the King's Scholars' Pond sewer, or Tyburn, from the park along the whole line of the new street to Charing Cross, and thence along Scotland-yard into the Thames at the Lime Wharf. In 1812 John Nash, as architect and surveyor to the Woods and Forests and one of the architects attached to the Board of Works, had, in conjunction with his former pupil, James Morgan, begun the laying out of the Crown lands of Marylebone (now Regent's) Park, cited in the Act as "containing in the whole five hundred and forty-three acres," their plans, for which a premium of 1,000*l.* had been offered, being preferred to those of Thomas Leverton and Thomas Chawner, architects to the Inland Revenue Board, who would have covered the whole area with urban villas. Moreover, the real purpose of the measure was to make a high road through what is mainly Crown property from Carlton House to a projected royal palace in the park, for which Nash had chosen the site, about 18 acres, of Jenkins's nursery grounds, where are now the Royal Botanical Society's gardens, laid out in 1840-2 by Decimus Burton and Robert Marnock. Of that scheme the only vestiges are Park-crescent and Park-square (both designed by Nash), Chester-road, leading from the Outer Circle into the Inner Circle, and the Broad Walk, formerly Green-lane. John Gwynn observes in his "London and Westminster Improved," 1766, that "the New (Marylebone) road is proposed to be the great boundary for restraining the ruinous practice of building on the north side of the town."

When Nash applied himself to the plans—he then resided at No. 29, Dover-street, Piccadilly—he was confronted by two obstacles, which he overcame in a masterly manner. Firstly: an extension southwards of Portland-place would enter Pall Mall opposite St. James's Palace.

* We should mention that an Act of 1810 (50 Geo. III., c. 65) had united the offices of Surveyor-General of Woods, Forests, Parks, and Chases, and of Surveyor-General of the Land Revenues of the Crown under a Board of Commissioners of Woods, Forests, and Land Revenues. Subsequent statutes placed (1814) His Majesty's Works and Public Buildings under a Surveyor-General of Works and Public Buildings; then (1832) the duties of the Surveyor-General and the Commissioners were joined under a Board styled the Commissioners of Woods, Forests, Land Revenues, and Public Buildings; and then (1851) that department was again divided into Works and Public Buildings and Woods, Forests, and Land Revenues, the post of First Commissioner of the former being made a political office.

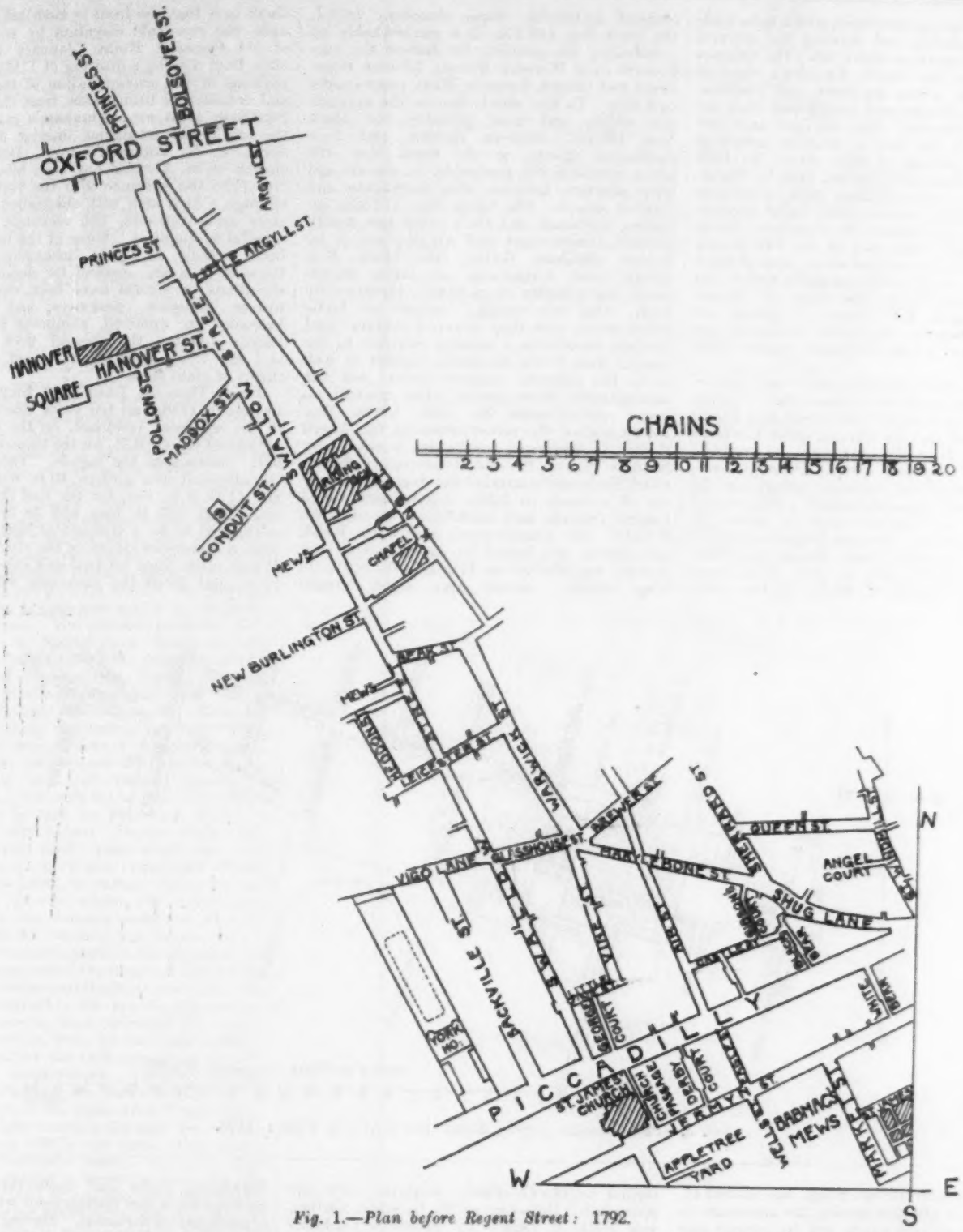


Fig. 1.—*Plan before Regent Street:* 1792.

whilst a perpendicular from Carlton House would meet the park where is now the garden of Park-crescent, and not include Portland-place at all. Secondly: he found that the south end also of Portland-place was blocked entirely across by the north garden-wall of (old) Foley House,* designed by S. Leadbeater, or Leadbetter, *circa* 1740, for Lord Foley, the wall being upon a line drawn from No. 68, now No. 13, to No. 1, now No. 20, Portland-place (Fig. 2). The east garden-wall lay along Edward-street, which is now the southern arm of Langham-street; the garden extended southwards to the rear of the houses on the north side of Mortimer-street (west), renamed Cavendish-place. Nash acquired (old) Foley House and grounds for 70,000*l.*; on the site of the north garden, which has not quite disappeared, he built Langham House (since taken for No. 11) for Sir James Langham, Bart., and some other houses at the south end of Portland-place. He opened out the short road into Chandos-street in front of the Langham Hotel [John Giles, 1863-5: July 25, 1863 *], brought his street into line with, and absorbed, Edward and (old) Bolsover streets, and so continued Regent-street to a circus at the crossing of Oxford-street. With (old) Bolsover-street should not be confused the present street so named, which at that time was called Norton-street. By reason it is said of some dispute with Sir James Langham he went round instead of through the Foley House site; but by advancing the circular peripteral portico of his church of All Souls' (1822-3) into the elbow of Langham-place, Nash effectively disguised the awkwardness of the turning, whilst partially concealing the open ends of Riding House and Langham streets. The southern arm of the latter thoroughfare (formerly Queen Anne-street East, and afterwards Foley-place) is all that he left of Edward-street. The design of the fluted spire rising to a point through the Corinthian peristyle of the bell-tower has been much criticised; yet we should regard the church less as a separate building than as a complement to the general grouping, where it enhances the prospect when seen at a distance from either side. From Oxford-street he incorporated Swallow-street, following its bend at Little Argyll-street, where he relieved the angle with two peristylar buildings (that to the north being the old Argyll Rooms) whose boldly-rounded outlines also afford a pleasing contrast to the concavity of the circus, and so southwards, absorbing Foubert's Riding School, to the meeting of Vigo-lane (since Vigo-street) and Glasshouse-street, whence he carried the road by a majestic quarter-circle sweeping round to meet the extended axis of Carlton House. On the higher ground at that point he completed the prospect with the façade of the County Fire and Provident Life offices. Then, having absorbed Castle-street, leading from the south part of Air-street into Shug-lane, and crossing Piccadilly with the lately disfigured circus, he laid the road through St. James's-market and St. Alban's-street into Pall Mall in front of Carlton House (Fig. 3). D. R. Roper acted in the valuation of the property for the Commissioners, whose fifth report, May 6, 1826, states that 1,472,719*l.* 6*s.* 3*d.* were expended in forming the thoroughfare, and 60,863*l.* 10*s.* 7*d.* in constructing the sewer.

Nash took the lease of the Quadrant, the first portion that was erected (see lithograph). Its chief feature—reproduced by him on a smaller scale in Park-crescent—was the two colonnades, each consisting of fluted Doric columns, 16 ft. 2 in.

* The existing Foley House, No. 8, Portland-place, was designed by James Wyatt (*obiit* 1813) for himself in or about 1786. The Doric portico is a later addition, perhaps by Captain Charles Wyatt, who bought the house after James Wyatt's death, and built the adjoining house.

* Dates within *square* brackets relate to illustrations in the *Builder*.

high, raised upon granite bases, with a balustrade above the cornice, and covering the entresol floor and footpath on either side; the columns were cast at the Carron Foundry; eight of them remain across Air-street and Swallow-street. The shopkeepers complained that the colonnades obscured their daylight and had become from the first a common resort of undesirable persons of both sexes. So they were taken down in December, 1848, by Pennethorne, who replaced them with continuous balconies carried upon enriched dwarf pilasters and consoles just above the mezzanine floors, and rearranged that part of the two fronts. Thus we lost a unique and scenic piece of street architecture which presented an extended and charming perspective. The name of "Quadrant" has gone, too; means of lighting are improved, whereas they who frequented its pavement and sought its shelter remain there to this day.

Nash completed Waterloo-place and most of Regent-street (south) in or about 1825. On the east side of the latter he built in 1823 Nos. 14 and 16 for himself and his relative, John Edwards. On retiring from the profession he removed from Dover-street into No. 14, where he decorated his picture and sculpture gallery, on the first floor, with copies of Raffaelle's pictures and designs in the Vatican, made by artists he employed in Rome. Decimus Burton (*obiit* 1881) built the opposite York House as Club-chambers on the site, in part, of a house designed by Nash for C. Blicke; of the earlier eminent architects. Soane designed, 1820-1, the block Nos. 156-170—it is unmistakably his—including the premises for Robins the auctioneers (now Warwick House), between Beak-street and Chapel, formerly Hide, court on the east side. To him also is due on the opposite side either, and more probably, the block Nos. 133-167, between Heddon and New Burlington streets, or the block Nos. 169 (since rebuilt) to 201, marked by its massive and lofty pilasters, between New Burlington and Conduit streets. The block Nos. 172-222, including Carbonell and Co.'s (until last April), between Chapel-court and Argyll-place, is by Robert Abraham (1819); the block Nos. 224-44, next northwards, to Little Argyll-street, has a highly characteristic elevation by Nash. The two rounded corners at Little Argyll-street, with their grouped columns and pilasters, constitute a pleasing contrast to the straight lines of the successive façades as well as to the adjacent concave circus; but the hemispherical dome resting upon scamilli no longer distinguishes No. 246, whilst Nos. 248-50 replace the concert-room of the Argyll Rooms, or Harmonic Institution, as rebuilt by Nash in 1818 on the site of the former Rooms which Slade had converted five years previously out of a house in Little Argyll-street where Colonel Greville had established the Pic-Nic Society. The concert-room, erected for Welsh and Hawes, and famed for its acoustical properties, was burned on February 6, 1830; its long balcony, carried upon eight termini Gwilt says that the front is modelled reputedly upon the river-side elevation by Inigo Jones of old Somerset House [January 17, 1903; after Paul Sandby's drawing of 1756], the proportions of the ornamentation of the columns and entablature being taken from those of the Pantheon at Rome. Abraham's planning for the small and triangular interior is skilfully done. C. R. Cockerell's front, 1823, of the church of St. Thomas has been blocked in at No. 172; the entrance into the vestibule was through a high arch with channelled rusticated piers and voussoirs, the elevation being as tasteful as dignified. Some of the houses have been rebuilt in quite incongruous styles, three or four are marked for demolition, the elevations of several have been changed, the former porticoes, doorways, and projecting balconies are removed, cumbrous fascias and boards obscure the ground floor windows, and the front walls seem to rest upon vast sheets of plate glass.

James Thomson (*obiit* 1883) built the Polytechnic in 1838, and ten years afterwards took in the adjoining residence, on the south side, of Colonel Wood, M.P., for the theatre or lecture-hall, rearranging the façade. The casting of the elliptical iron girders, 40 ft. 6 in. in span, and 11 ft. 9 in. rise, for the roof (1837) of the main hall, 120 ft. long and 38 ft. high, was considered to be a triumph of skill. In 1860, after a disastrous failure of the staircase, T. H. Wyatt made some internal and external alterations, and fitted the staircases with steps of

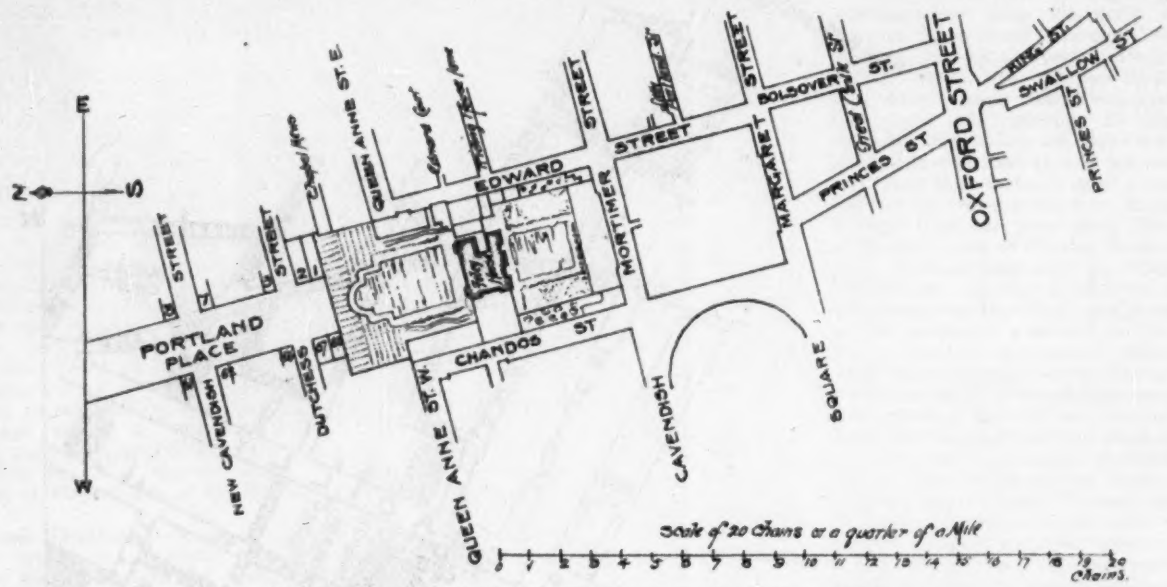


Fig. 2.—Plan between Oxford Street and Portland Place: 1792.

house yet remain the two wings, Nos. 13 and 17, marked with pilasters having the ammonite or ram's-horn volute, which will be noticed also at Nos. 19-25. His nephew and successor, Henry M. Burton, altered No. 1, formerly Maurigy's, and now the Continental Hotel, into a club-house. G. Stanley Repton (*obiit*, it is said, 1858) built St. Philip's Chapel for his brother the Reverend Edward Repton in 1819-20, at a cost of 15,000*l*. The church, having a tetrastyle portico after the Roman Doric order with deep pediment, a square tower carrying a copy of the Choragic Monument of Lysikrates, and boukrania on its façade, is about to be sold, together with its site, by the trustees in pursuance of an Act which was passed in the course of last session. The house, rebuilt by Nelson and Innes in 1856-7, of the Junior United Service Club at the corner of Charles-street was originally designed by Sir Robert Smirke, R.A. (*obiit* 1867), and altered in 1842-52 by Burton for the United Service Club, who sold it to the present proprietors. Nos. 20-2, east side, at the corner of Jermyn-street, were rebuilt for Messrs. Elkington and Co. in 1869, by Frederick Peck (*obiit* 1875).

Influenced, it may be, by Robert Adam's method, though not by his style, Nash conceived two lines of houses which whilst preserving the continuity of the general design, should comprise a succession of single blocks severally presenting separate and complete façades. For coadjutors he had Cockerell, Soane, Abraham, Repton, Smirke, and other carved by J. G. Bubb, projected over the pavement. Hanover, or St. George's, Chapel, was built in 1823-5 by Professor Cockerell (*obiit* 1863) of Bath stone, at a cost of 16,180*l*., upon a confined site at the corner of Prince's-street, which the Crown gave to the parish. The plan and lighting of the interior have been compared not inaptly with those of Wren's Church of St. Stephen, Walbrook. Some of the stones were remarkably large, the door-lintel weighed nearly 6 tons and the single stones of the architraves of the portico measured some 14 ft. in length. In Mr. Geo. J. J. Lacey's perspective drawing, with plan [March 2, 1895], the four columns of the portico appear without their continuous podium; the alteration thus indicated was made about fifteen years ago. That beautiful edifice was ruthlessly sacrificed by its demolition in October, 1896, after it had been sold to the Woods and Forests for 45,000*l*., in favour of a new church, St. Anselm's, in Davies-street, Mayfair. The site of 6,666 sq. ft. was let at auction in February, 1897, on a building lease for eighty years at a ground rent of 2,120*l*. per annum, equivalent to 6*s*. 4*d*. per foot, or a capitalised sum of nearly 414,000*l*. at thirty years' purchase. On the site stands Regent House, built on a contract for 26,785*l*. by Mr. J. Carmichael after Mr. G. D. Martin's designs. Of the County Fire Office, 1819, which takes so commanding a position at the top of the incline from Pall Mall, the principal elevation is, it would appear, by Abraham, though some ascribe it to Nash. Parkspring stone and cantilevers under the landings for a new management who opened an educational department. Having been closed on September 3, 1881, as a place of scientific entertainment, the building was taken over for a young men's Christian institute by the late Quintin Hogg, who there expended much of his labours and private resources upon an institution that gave a name to many similar schools in London; the governors acquired the Marlborough Rooms, formerly the theatre, in 1892, for a school of art; in November, 1896, they let some opposite premises, No. 316, to the Technical Education Board, L.C.C., for the Central School of Arts and Crafts. Queen's Hall and St. George's Hall occupy the site of the Portland Bazaar and German Fair. The former [February 14, 1891; two two-page views and plan in text] was erected by Mr. C. Wall, the exterior carving being by Messrs. Sidney W. Elmes and Son, and special works by Messrs. Doulton, Noel Quillet of Paris, Campbell, Smith and Co., and others. A controversy that arose as to the authorship of the design was referred in 1893 to the then President of the Institute, Mr. J. MacVicar Anderson, who adjudged that, subject to a few variations, the building had been erected from plans, as distinguished from elevations and sections, which were designed by Mr. C. J. Phipps, and that the design of the exterior and interior in other respects, as well as the completion of the hall, were due to Mr. T. E. Knightley, under whose sole superintendence the building

had been carried out (see the *Builder* of December 30, 1893). St. George's Hall, where the German Reeds, on quitting the Gallery of Illustration, Regent-street, and Corney Grain gave their entertainments, was built in, we believe, 1838, and rebuilt after a fire in 1852: in April, 1898, it was renamed the Matinée Theatre.

Conduit-street (1718).—The Royal Institute of British Architects, founded in 1834 under the presidency of Professor Cockerell, and incorporated by Royal charter of January 11, 1837, was joined in 1842 by the Architectural Society (1834). Some years afterwards the Institute removed from 16, Lower Grosvenor-street, to No. 9, built in 1778-9 by James Wyatt (*obiit* 1813) for a Mr. Viner, on the site, it seems, of a house built for Lord Macclesfield on quitting Gerard-street, Soho. In 1898 they leased from the Architectural Union Company five rooms on the second floor, the lease being co-terminous with that of the premises already occupied by the Institute. No. 37, a home of George Canning, and altered since his time, was portion of Trinity Chapel, erected by Tenison when rector of St. Martin-in-the-Fields, where now stands Ulster House. The chapel is delineated in the background of L. Knyff's view, engraved by J. Kip, 1707, of Burlington House.

Carlton House, or Palace, No. 114, Pall Mall, was built for Henry Boyle, Lord Carlton, on a part of the Royal Garden leased to him by Queen Anne in 1709, for thirty-one years at a ground rent of 35*l.* per annum, and descended in 1725 to his nephew Richard, Lord Burlington, who in 1732 gave it to his mother, the dowager Countess, who in that year sold it to Frederick, Prince of Wales. The grounds extended from the garden of Marlborough House to the riding-house, or Carlton Ride (since used as a depository of the Queen's Bench, Common Pleas, and Exchequer records, and pulled down in 1858), near Warwick-street. Kent laid them out for Lord Burlington with a bowling green, bowers and grottoes, a cascade, a marble saloon, a bath, and statues and busts in imitation, Walpole says, of Pope's gardens at Twickenham. Flitcroft made some alterations of the house in 1733 for Frederick, Prince of Wales, and Sir Robert Taylor (*obiit* 1788) recased its red brick with stone. In 1783 George, Prince of Wales, employed Henry Holland (*obiit* 1806) to enlarge the house and remodel the interior, which was sumptuously furnished for the Prince's marriage in 1795. Holland, 1788-90, renewed the façade, 195 ft. long, with a Roman Corinthian hexastyle portico for carriages, and added the screen of paired Ionic columns that separated the front yard from Pall Mall (see lithograph); the private apartments, 115 yds. in length, were extended far beyond the upper, or state, floor, by the Gothic dining-room (Holland) at the east and at the west by the Gothic conservatory. Thomas Hopper (*obiit* 1856) designed the conservatory, 72 ft. by 23 ft., and 20 ft. high, after Henry VII.'s Chapel, the light entering through the tracery of the vaulting (1807), and made other alterations after Holland's death. In 1814 Nash built in the garden a reception-room for the visit of the Allied Sovereigns after the peace. The room, having twenty-four sides on plan, a diameter of 120 ft., and a central pillar, was given by the Prince Regent to the Royal Military Depository at Woolwich, where it now stands as the Rotunda and contains the museum of models, arms, trophies, etc. King George IV., when Regent, had proposed to connect Carlton House to Marlborough House and St. James's Palace by a gallery to contain royal and historical portraits; but that scheme for a National Gallery came to nought. The Act 7 Geo. IV., c. 77, enabled the Commissioners of Woods and Forests to take down Carlton Palace, and ordained that the ground and new buildings should become part of the Land Revenues of the Crown, and that the purchase monies with fines upon the granting of the leases should be devoted to the repair and improvements of Buckingham House. At the demolition in 1828 much of the interior ornamental work, friezes, columns, mantel-pieces, and so on, were refitted in Buckingham Palace. The eight columns of the carriage-porch, but not their highly enriched entablature, were, as we are authoritatively informed, used by Wilkins for the National Gallery portico. Carlton House-terrace—the eastern portion, 1828, by Nash and Pennethorne, and Carlton-gardens stand on the site of the house and grounds. B. D. Wyatt (*obiit* 1850) built a house in the terrace for the Marquis of Tavistock, 1831, and Burton built

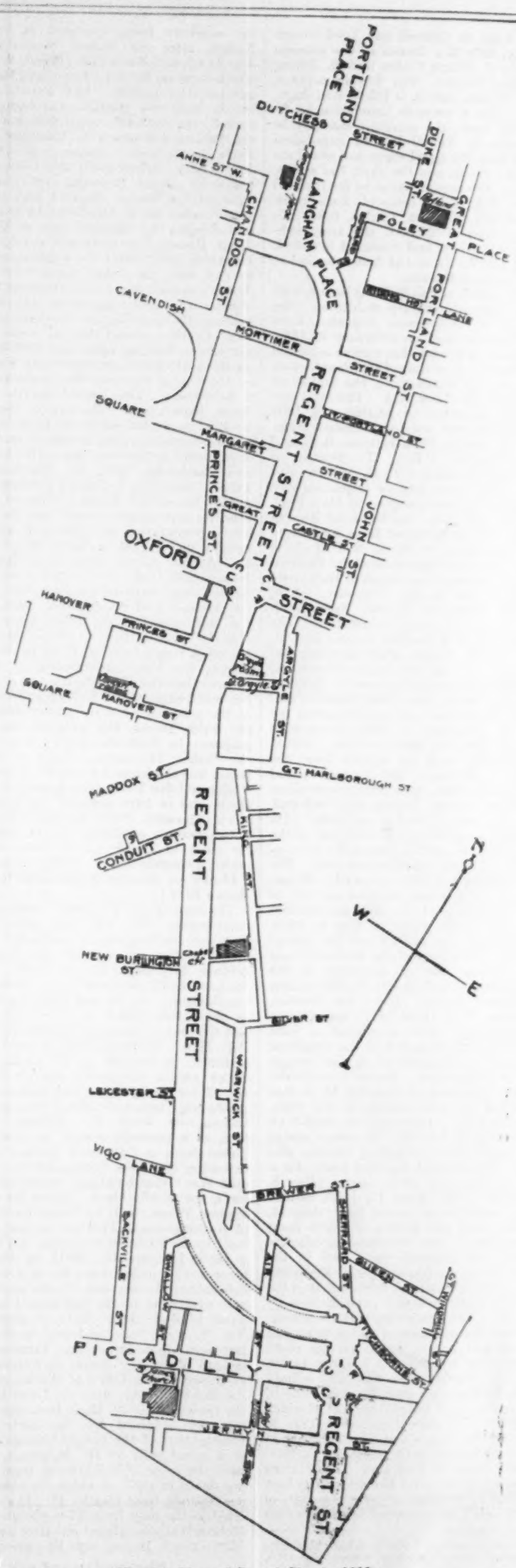


Fig. 3.—Plan of Regent Street: 1819.

houses for Lord de Clifford and Lord Stuart de Rothesay, 1828-32; houses in the gardens were built for J. Wilson Croker and H. Baring by Sir Robert Smirke. The Tuscan column, by B. Dean Wyatt, 1830-3, is 123 ft. 6 in. high, and stands upon a concrete foundation 53 ft. square at the base; the excellent masonry in Scotch granite by Nowell has an unpolished fine-axed surface, the spiral stairs and newel are cut from solid blocks, and the shaft has a very slight entasis. The bronze statue by Sir Richard Westmacott, R.A. of the Duke of York in his Garter robes was raised on April 8, 1834. To the building fund of 25,000*l.* the army subscribed one day's pay, and Soane, it is stated, contributed 1,000*l.* It was at first intended to place a fountain on the site.

Pall Mall.—Much of Pall Mall has been rebuilt by famous nineteenth-century architects. The members of the Athenæum migrated from No. 12, Waterloo-place, on February 8, 1830. The club-house, by Burton, has a frieze modelled by John Henning from that of the Panathenaic procession on the Parthenon; the statue of Minerva is by E. H. Baily, R.A. The total cost with fittings amounted to 43,102*l.* In 1891 the hall and staircase were redecorated under the directions of Sir L. Alma-Tadema, R.A., and Sir E. J. Poynter, P.R.A. To Burton as official architect succeeded T. H. Wyatt (*obiit* 1880) who made some interior improvements, and Charles Barry, who resigned in May, 1899. The top story, set back from the front lines of the building, but unconcealed from view from the street, was added by Mr. T. E. Collcutt in 1899-1900. The area balustrade of old Purbeck Portland from Swanage has panels of Irish green marble. Next west is the Travellers' Club, 1829-32, with which Sir Charles Barry (*obiit* 1860) first attained his general reputation. The design, selected in a limited competition, is remarkable for the simple, albeit dignified, and reposeful beauty of the two Italian elevations. Messrs. Lee built the house at a cost of 19,000*l.*; in 1889 Charles Barry (*obiit* 1890) repaired and redecorated the interior, and reconstructed the drainage, etc. [January 5, 1901; interior of the library.] For the Reform Club, 1838-9, Sir Charles Barry took his motive from the Farnese Palace at Rome; the designs, carried out at a cost of 80,000*l.*, were preferred to those of Basevi, Blore, Smirke, Burton, and Cockerell, who, with him, were invited to compete.* On July 18, 1846, we published illustrations of the kitchens, larders, etc., with a plan, and a description by Alexis Soyer, the famous *chef*. The club was established in 1832 at Gwydyr House, Whitehall; the club-house occupies the site of Nos. 100-5, including, at No. 103, Angerstein's Gallery, opened to the public on May 10, 1824, after the purchase for 57,000*l.*, of the thirty-eight pictures which formed the nucleus of our National collection. For an extension of the Carlton Club, as first built in 1835-6 after designs by Sir Robert Smirke, R.A., his brother, Sydney Smirke, R.A. (*obiit* 1877), and George Basevi the younger were appointed as joint architects in 1845 by a ballot of the members, as the committee disapproved of the designs submitted in competition. Basevi's accidental death in Ely Cathedral on October 16 of that year prevented him from sharing in the work. The west side having been built in 1846-7 on Grissell's tender for 19,000*l.*, the entire design was completed in 1855 by Sydney Smirke, who pulled down the original building (east) for a front 133 ft. long and 70 ft. high. [May 8, 1847, complete front; June 16, 1855, central part of front and plan of ground floor; July 14, 1855, garden front and section of north front wall.] Caen stone, with Peterhead granite for the columns and pilasters were used in the three sides, the upper Ionic order of the north front, the sculpture excepted, follows that of the Library of St. Mark in Venice; the frieze is by John Thomas. The plan is that of the vestibule, or *cortile*, with the coffee-room on the west, and the morning and writing rooms on the east; on the first floor are the two libraries (east), card-room over the entrance hall, and billiard and house dining-rooms over the two ends of the coffee-room, above the middle part of which is a skylight. The club, founded in 1831 in Charles-street, St. James's-square, removed in 1832 to Lord Kensington's house in Carlton-gardens, and thence to Pall Mall. The Oxford and Cambridge Club, by Sir Robert and Sydney Smirke, 1836-7, presents a great amount of ornamental detail, the panelled bas-reliefs over the windows being executed in cement by Nicholl after Sir Robert Smirke's designs. The Army and Navy Club [March 3, 1851], for which Lord de Mauley's house and its site were purchased for 52,000*l.*, is by C. Parnell and Alfred Smith, and cost 35,000*l.*, the equipment excluded; the rusticated lower floor is taken from the Palazzo Cornaro a S. Maurizio of Jacopo Tatti, otherwise known as Sansavino. The Junior Carlton [July 20, 1867, with two plans] by David Brandon, was considerably enlarged by Messrs. Holland and Hannen in 1885-6, after Mr. J. MacVicar Anderson's plans and designs, by the inclusion of the site of Adair House, No. 1, George-street, by P. C. Hardwick (*obiit* 1892), for a frontage of 120 ft. to Pall Mall, an almost equal frontage to St. James's-square, and a west frontage to George-street. The south elevation was altered by shifting the position of the doorway, adding bays to the ground floor at each end, and carrying a balcony along the first floor level; on the north front prominent bay windows rise to the top of the first floor, surmounted with a balustrade. The United Service Club, by Nash, 1826-8, and enlarged on the east side by Burton, whilst one of the most commodious and comfortable clubs in this quarter, scarcely does justice to its situation. The New Oxford and Cambridge Club, No. 68, was built in 1873-4, after Mr. T. Dudley's designs, for the Junior Naval and Military Club, of which the lease for seventy-nine years, from July 5, 1873, at a ground rent of 550*l.* per annum, was bought on August 5, 1887, for 30,700*l.*, by Mr. Ashton Lever, who there founded the Beaconsfield Club; Nos. 67-8-9 were Kershaw's Hotel some forty years ago, No. 69 is now the London and Joint Stock Bank. No. 52, the Marlborough Club (1891), founded by His Majesty when Prince of Wales, occupies the site of a house built in 1789, by the younger Dance, for Alderman Boydell as his Shakespeare Gallery. The façade carried a large bas-relief, engraved for Boydell's "Shakespeare," of the poet attended by Poetry and Painting, for which Banks, the sculptor, was paid 500 guineas; in 1806 the gallery was opened as the British Institution, closed in 1870. The house was the home for a while of Benjamin L. Vulliamy (*obiit* 1854), who made the Post-office clock, and in 1816 renewed the Horse Guards clock (Thwaites, 1756), for which he employed a two-seconds pendulum (as Le Paute did in his clock at the Hôtel de Ville, Paris), and added a seconds-hand. (Confer Henri Robert's "Études sur diverses Questions d'Horologerie," Paris: 1852.)

The story of the War Office buildings is rather complicated. We will say briefly that to Matthew Brettingham is attributed the house, formerly No. 86, erected for George III.'s brother Edward, Duke of York, and since occupied as Cumberland House by the Duke of Cumberland. No 86 was subsequently opened as the Albion Hotel—a "subscription house," and the first of the more modern club-houses in Pall Mall. William Atkinson (*obiit* 1839), as architect, in 1813-29, to the Ordnance Office, either rebuilt or greatly altered the Albion, No. 91, for the Ordnance and Transport Departments who removed thither from the office in Cannon-row built by William Pilkington (not, as is generally stated, by Atkinson), and pulled down in 1900 for a police-station as an extension of "New Scotland-yard." The present War Office buildings consist of (*a*) Atkinson's, the middle block; (*b*) on the east Buckingham House, built by Soane for the Marquis of Buckingham in 1794 on the site of a house built by R. Furze Brettingham; (*c*) on the west a block [August 16, 1851] by Pennethorne, for which he pulled down the east wing of (old) Schomberg House; and (*d*) the middle portion and west wing of the last-named house. The name of Schomberg House is now borne by No. 78, a residence bestowed in the spring of last year upon Prince and Princess Christian instead of Bushey House in Bushey Park, on exchange by the Office of Works on behalf of the Royal Society, with the Land Revenues of the Crown. No. 79, Eagle Insurance Company, formerly occupied by the Society for the Propagation of the Gospel, stands on the site of a house built by Dr. Heberden, where had been the home of Nell Gwynn from 1671 until her death in 1687, of which she obtained a free conveyance from Charles II. It is commonly cited as the only freehold in the street, but Sir Robert Walpole, who at one time lived opposite Marlborough House, says he owned a freehold

(*Continued on next page.*)

* Confer also the article: "The Architectural Genius of Sir Charles Barry," by the Editor.—*Builder*, January 5, 1901.

Illustrations.

THE SENATE CHAMBER, DUCAL PALACE, VENICE.

THE view of this rich but rather *rococo* saloon is drawn by Mr. A. C. Conrade, who has drawn the details of the ceiling with much power, and has peopled the apartment with figures belonging to the period when the Venetian Senate was at the height of its power. Behind the Doge's throne is seen Tintoretto's picture of the deposition by angels, with the figures of two Doges kneeling.

DETAIL ELEVATION: PART OF ROYAL COLLEGE OF SCIENCE.

THIS is a reproduction of the large detail drawing of a portion of Mr. Aston Webb's building in Imperial Institute-road, which was exhibited at the last Royal Academy Exhibition.

There has unfortunately been an error in the lettering on the plate, which was printed some time back, and which gives the wrong ascription. The mistake was not discovered till too late to rectify it.

We have had it printed in two colours, so as to give more of the effect of the original drawing in the contrast between the red brick and the stone work.

A TRANSLATION.

IT has often occurred to me that it would be an interesting experiment to see how some well-known architectural composition in any well-marked style would look if translated into the details of another style. In this instance I have selected a great Gothic façade familiar to everybody, and "translated" it into Renaissance.

The wall-arcading on the towers in the Gothic original is not suggested in the translation; it would hardly come into a Renaissance tower scheme, and it is the weakest point of the original; the towers, to flank suitably that immense arcade, should have been as solid and unbroken as possible. A Renaissance architect, of course, would never have dreamed of building the central arch narrower than the other two; that is only done to retain an important fact in the original design.

It is perhaps as well to add (since some people will take one too seriously) that this does not imply any wish on my part that Peterborough had been built in Renaissance style. I am very well content with it as it is!

H. H. STATHAM.

A GENOESE DOORWAY.

THIS is a doorway in a house which was formerly a portion of a late Renaissance palace. It is a rich and pleasing composition—a niche within a niche—forming harmonious lines. The figure work is of a late or Baroque order.

A. C. C.

GROTTO IN THE CORTILE, PALAZZO PODESTÁ, GENOA.

THIS is an open façade to a grotto with running water; poor enough in the architectural part of the design, but redeemed by two very decorative caryatides, which support a scrolled shell. The whole suggests a background in a picture by Fragonard or Pater, either of whom it would have suited well to introduce into some composition.

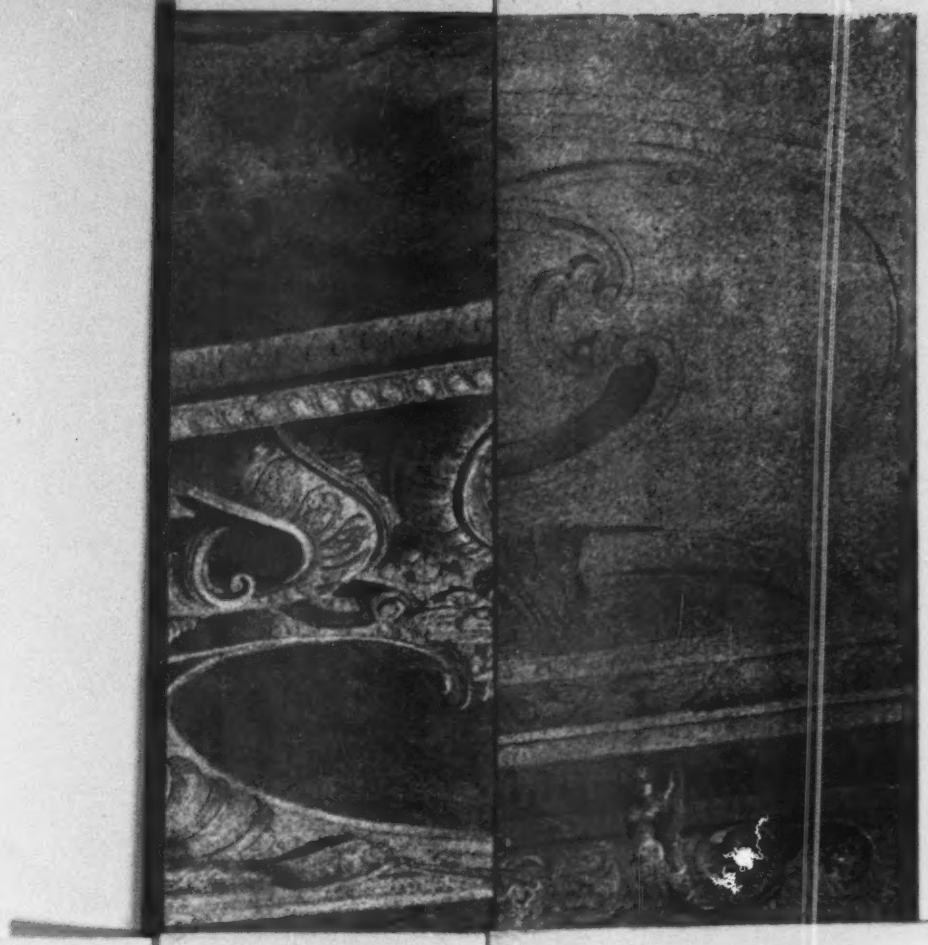
A. C. C.

ABBEY OF ST. VICTOR AND PRIORY OF THE TOURNELLES, OLD PARIS.

THIS is the last of the drawings of the late Mr. H. W. Brewer which is in our possession, and in publishing it we feel very much the want of the valuable archæological notes with which Mr. Brewer always accompanied his drawings. As a Catholic, he was very well up in the history of the ancient mediæval establishments of London and Paris.

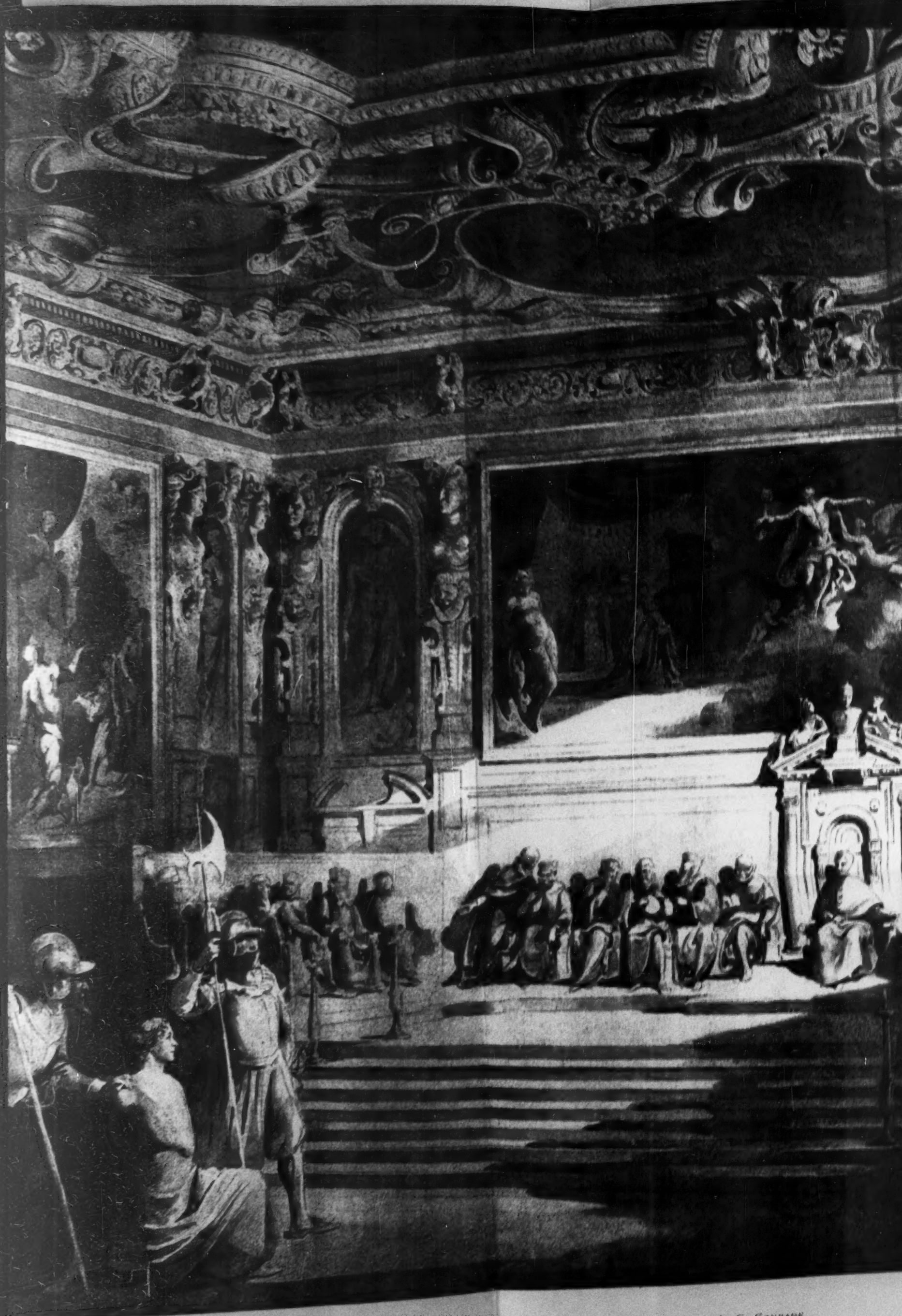
The locality is fixed by the name of the still existing Rue Tournelles, which runs into the Faubourg St. Antoine, just west of the Place de la Bastille. In later mediæval times there was on this site a Hôtel and Parc de Tournelles; the Place des Vosges is on the site of the Parc; probably the Priory preceded this. Of the Abbey of St. Victor we cannot find any record.

The Priory is (presumably) the low turreted building on the right, on the margin of one of the ditches, rather than streams, which intersected this low-lying portion of old Paris.

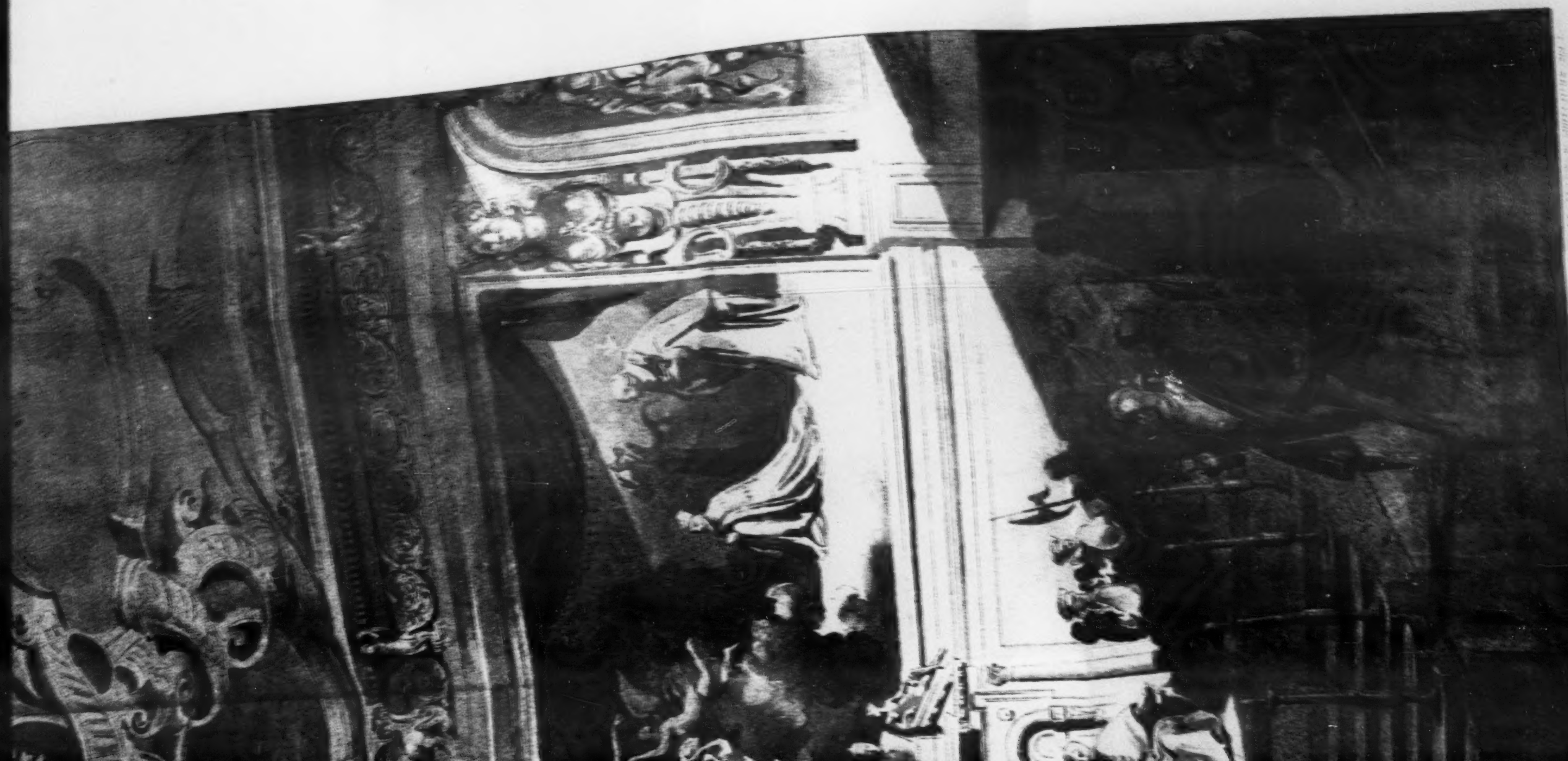


THE SENATE CHAMBE

CHAMBER, PALACE OF THE DOGES, VENICE.—Drawn by Mr. A. C. Conrade.



THE SENATE CHAMBER, PALACE OF THE DOGES, VENICE.—Drawn by Mr. A. C. Conrade.



ROYAL COLLEGE OF SCIENCE

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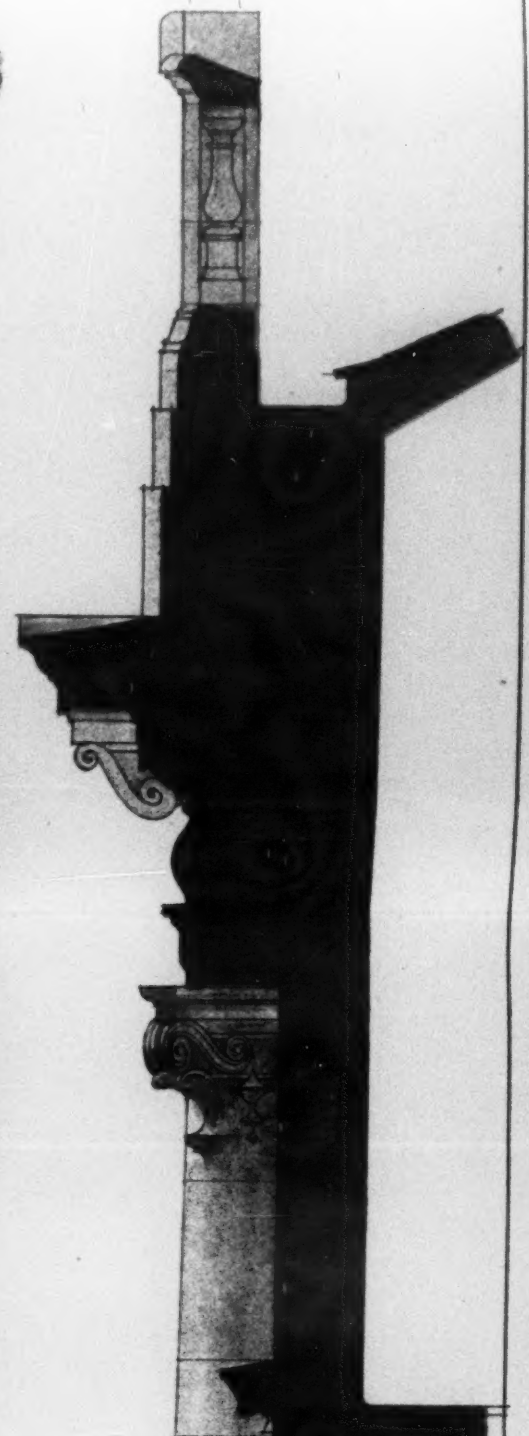
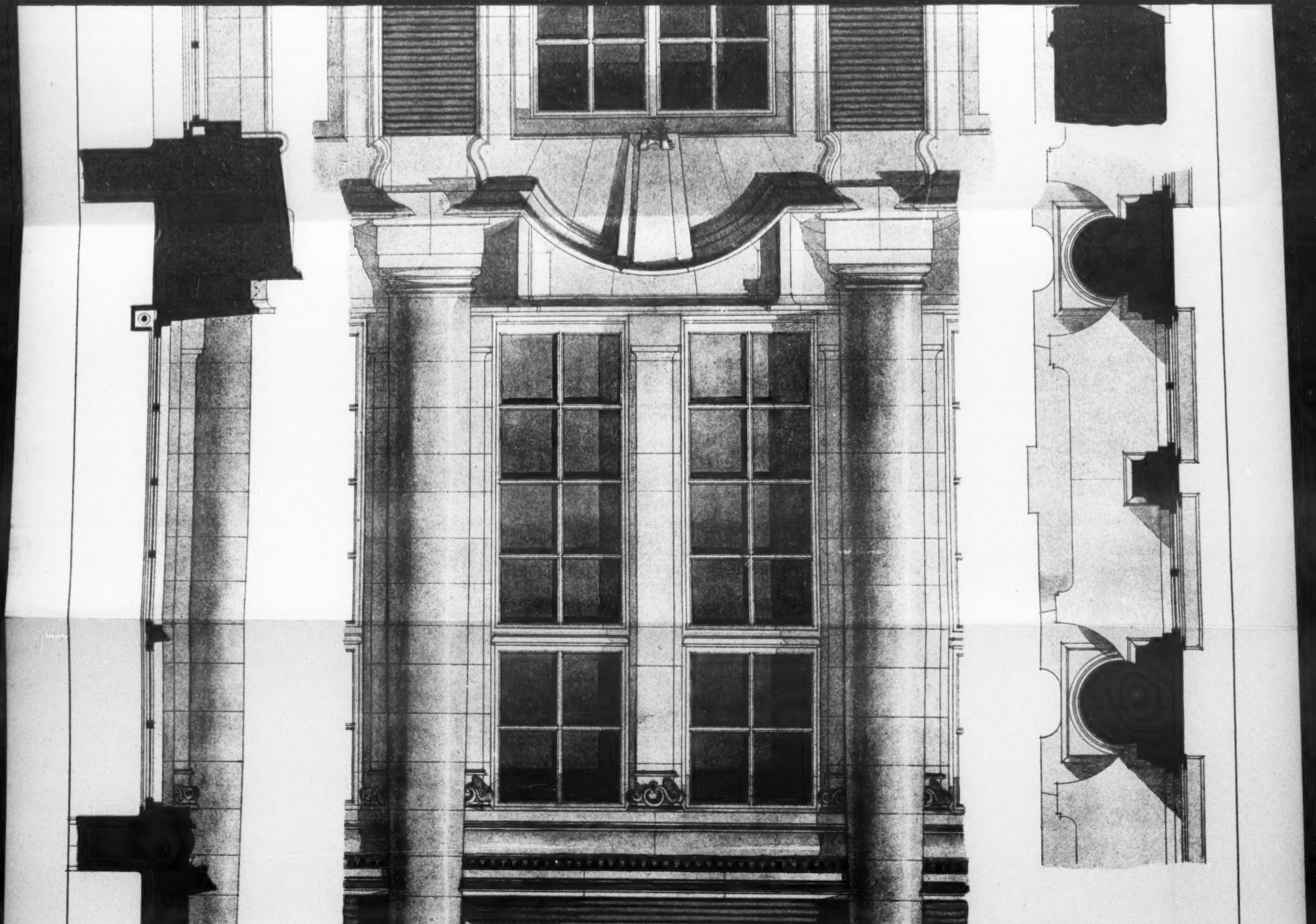
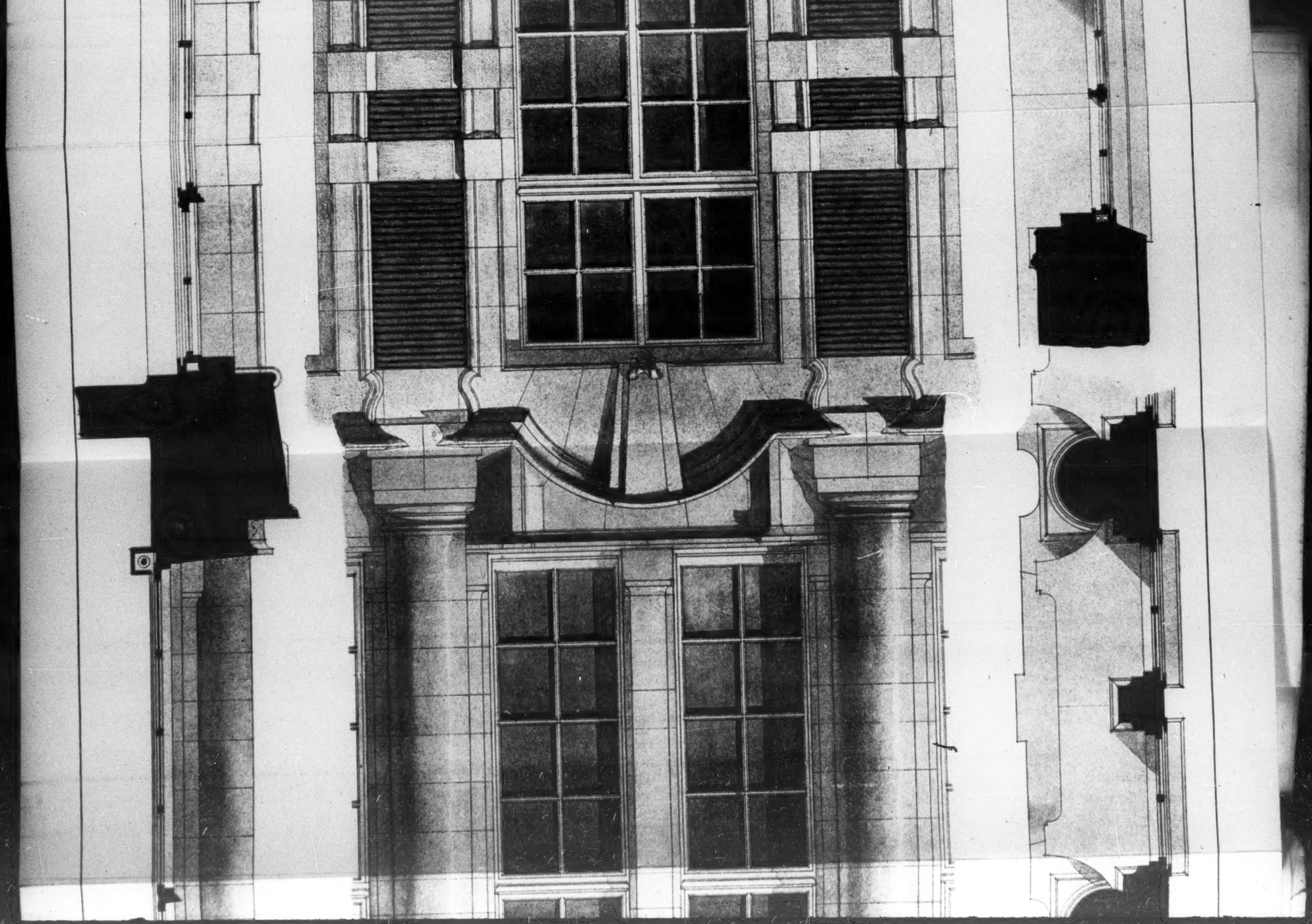
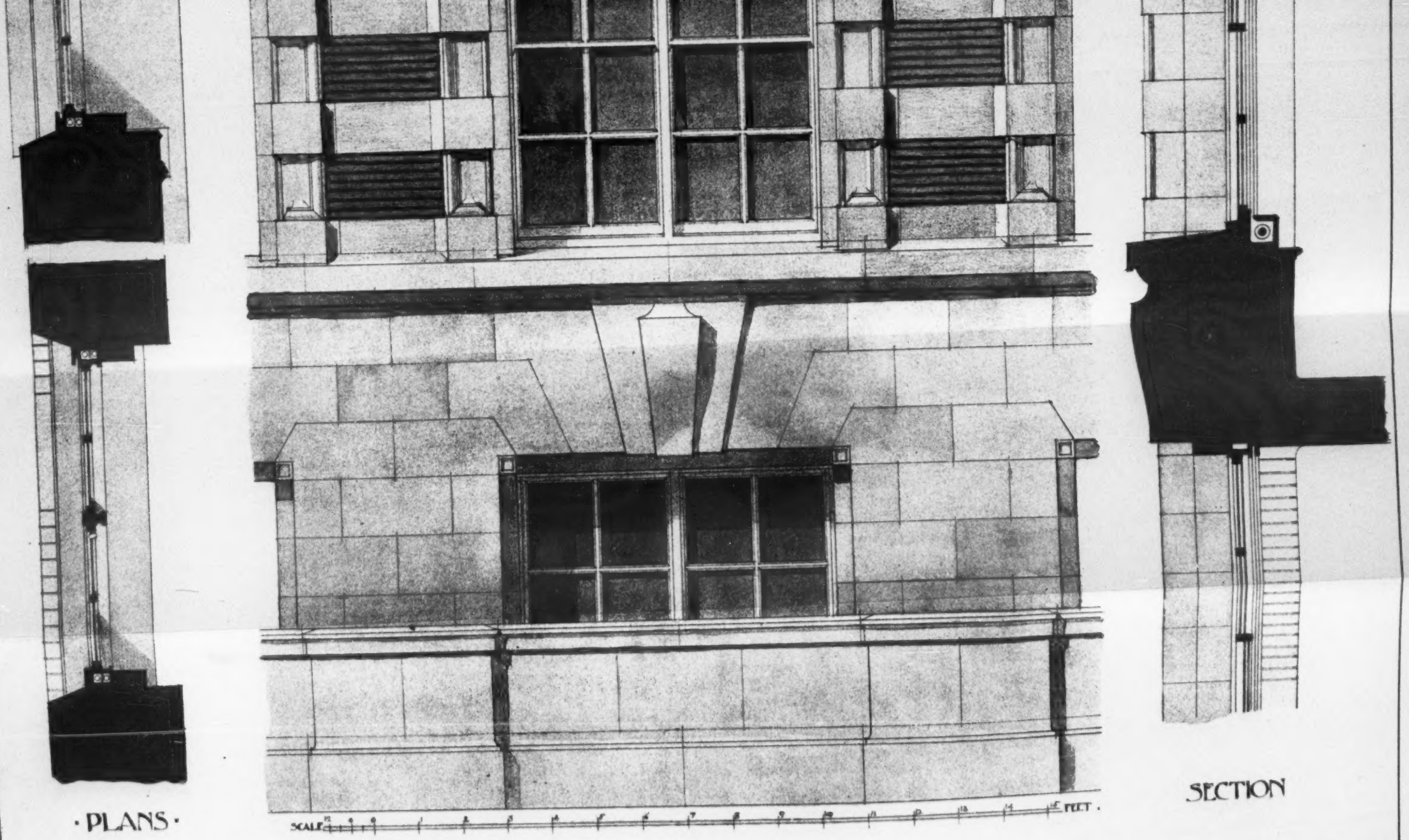


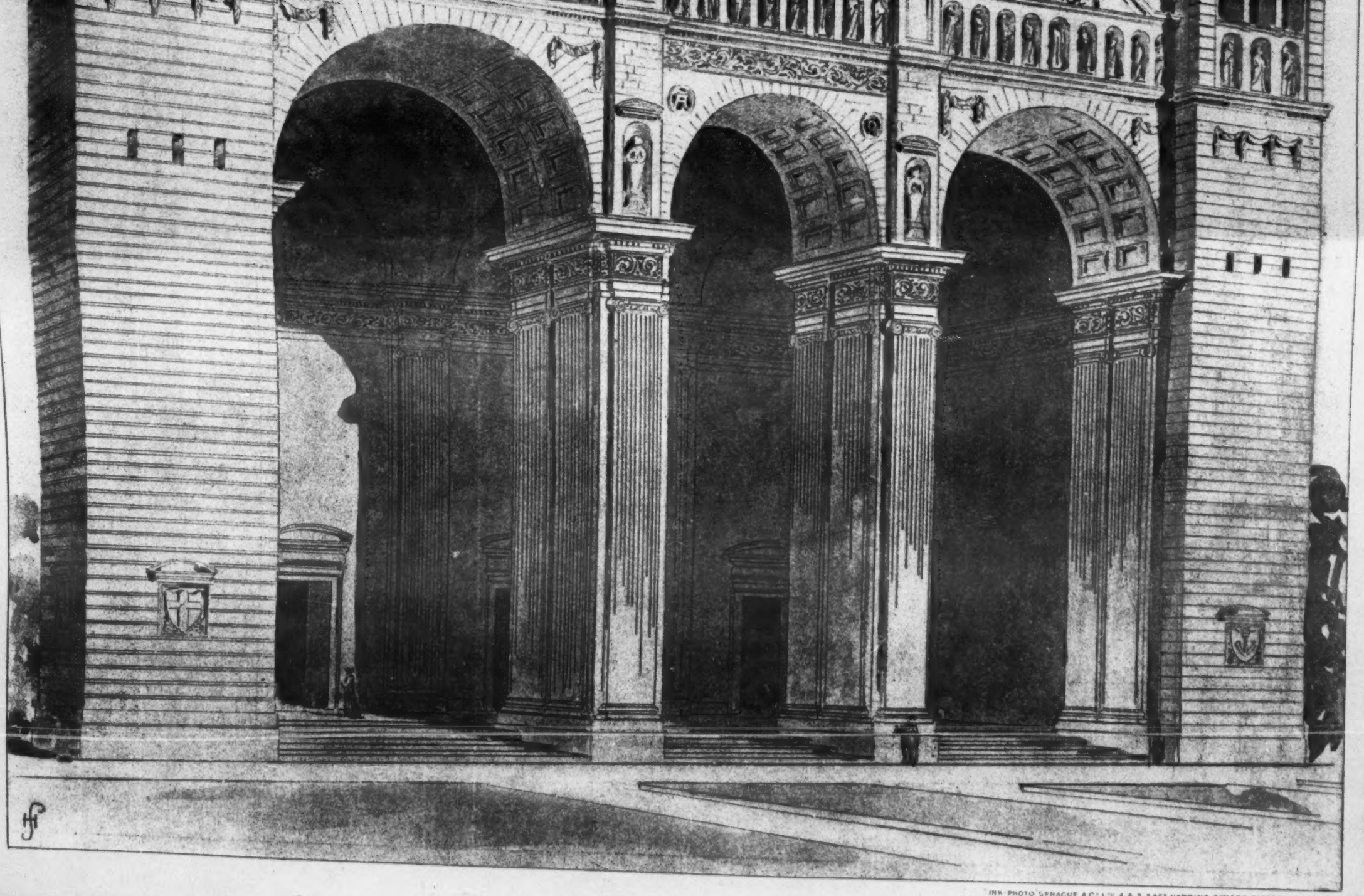






DETAIL ELEVATION: PART OF VICTORIA AND ALBERT MUSEUM.

Mr. Aston Webb, R.A., Architect.



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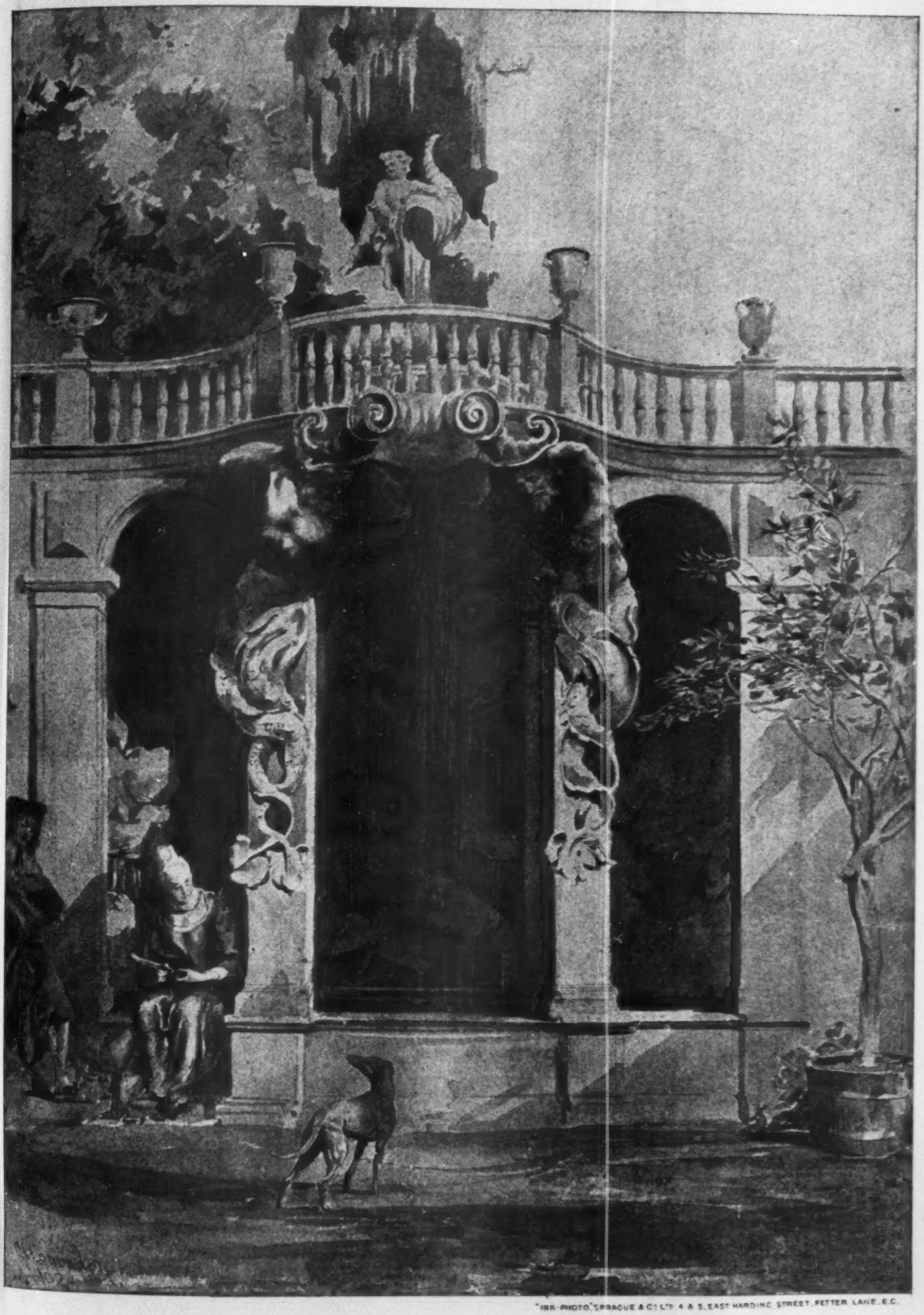
"A TRANSLATION."—By The Editor.

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

A GENOESE DOORWAY (IN A HOUSE IN VIA SAN LORENZO).—Drawn by Mr. A. C. Conrade.



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GROTTO IN THE CORTILE, PALAZZO PODESTÁ, GENOA.—Drawn by Mr. A. C. Conrade.

PHOTO LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET FETTER LANE E.C.

DESTROYED.)

OLD PARIS: ABBEY OF ST. VICTOR AND PR

FROM A DRAWING BY

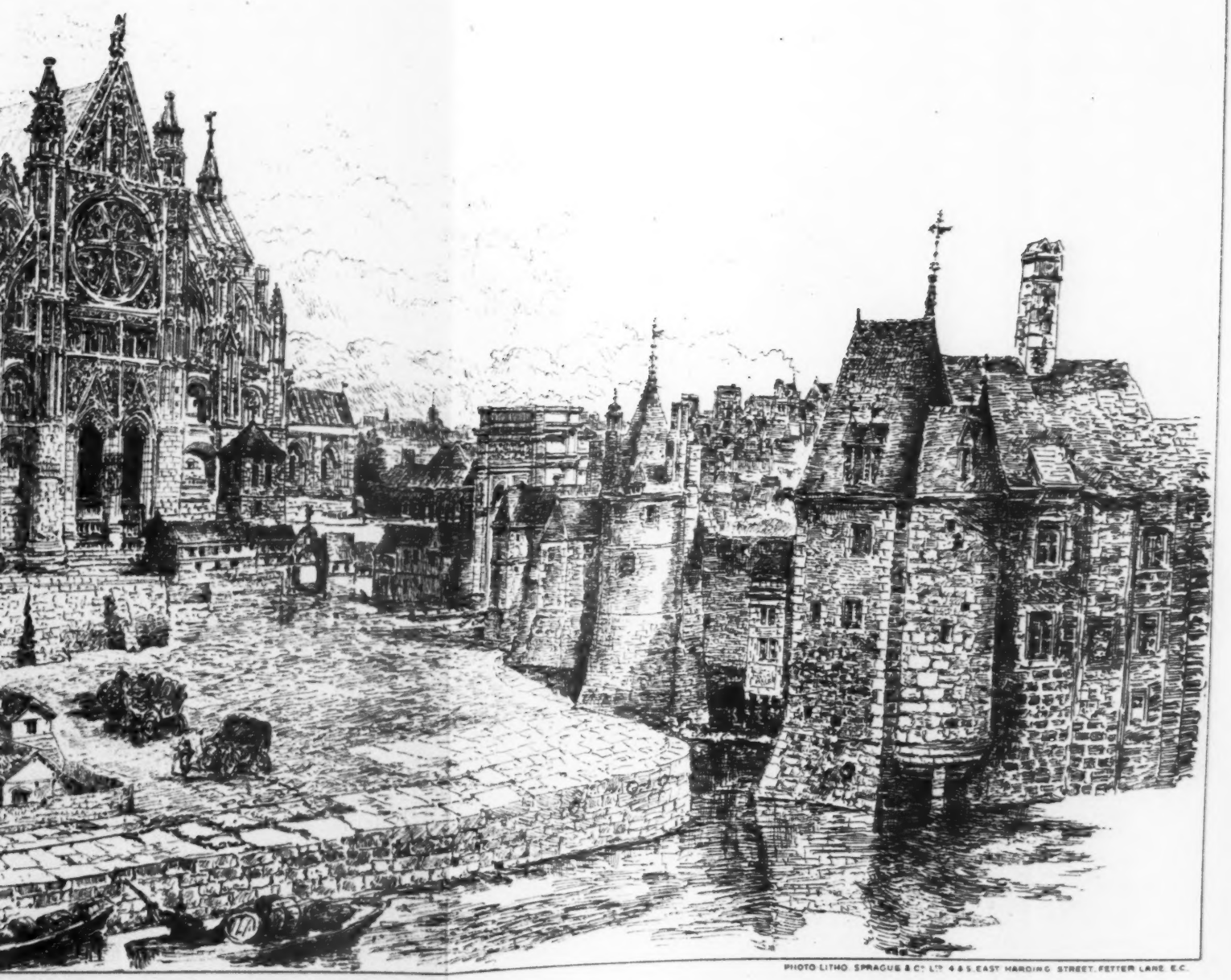
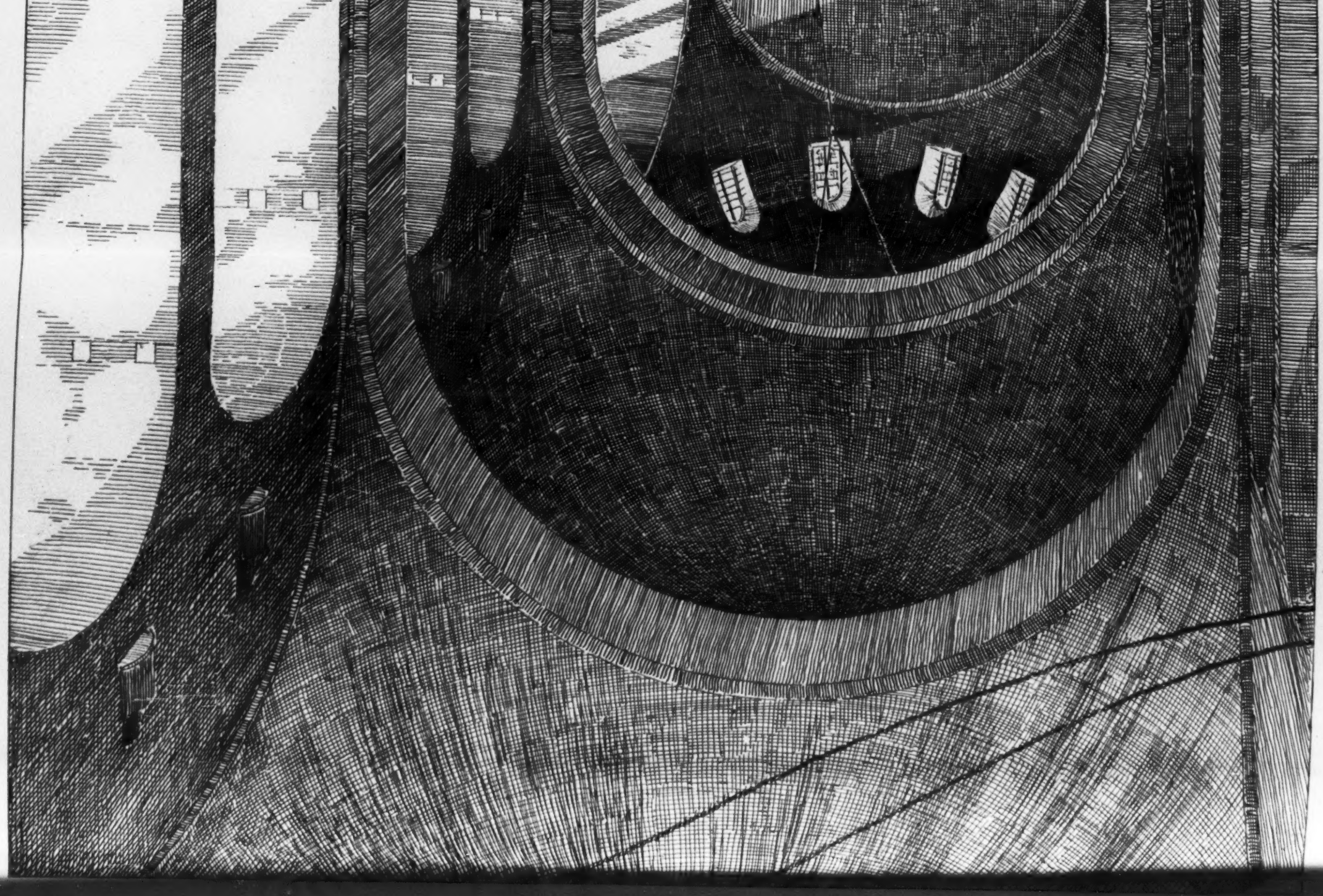
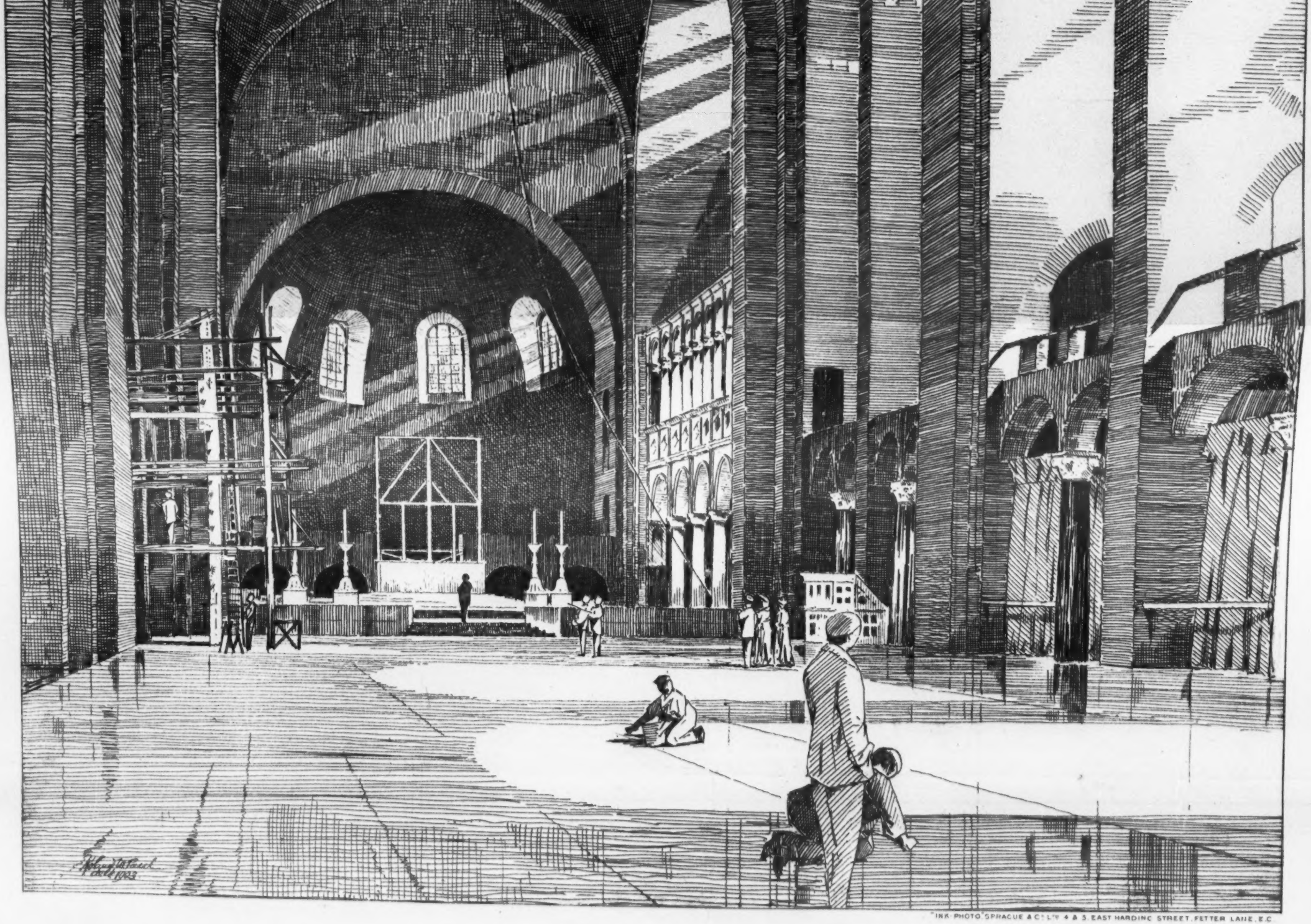


PHOTO LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET FETTER LANE E.C.

R AND PRIORY OF THE TOURNELLES, (NOW DESTROYED.)

DRAWING BY THE LATE H. W. BREWER.





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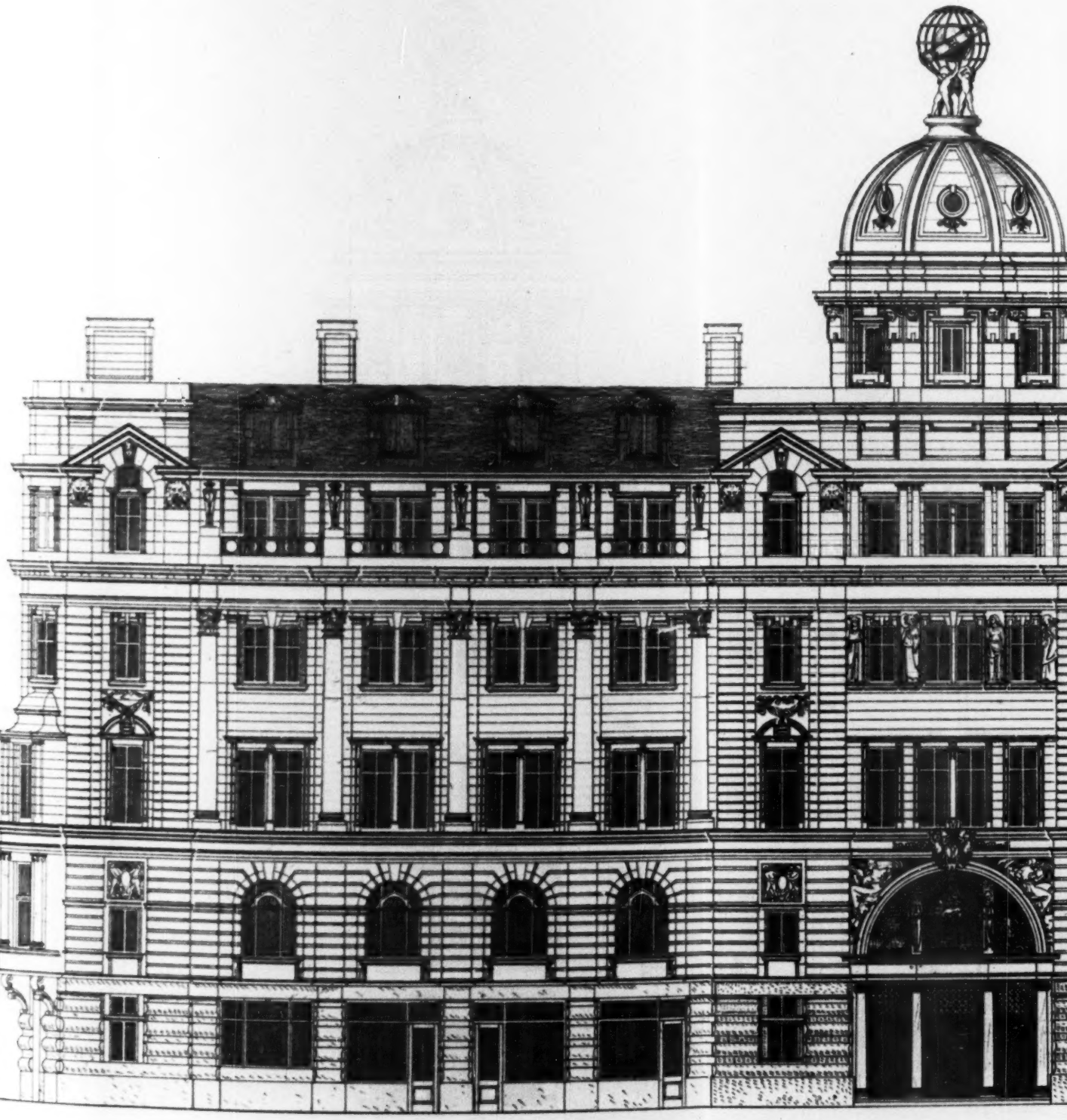
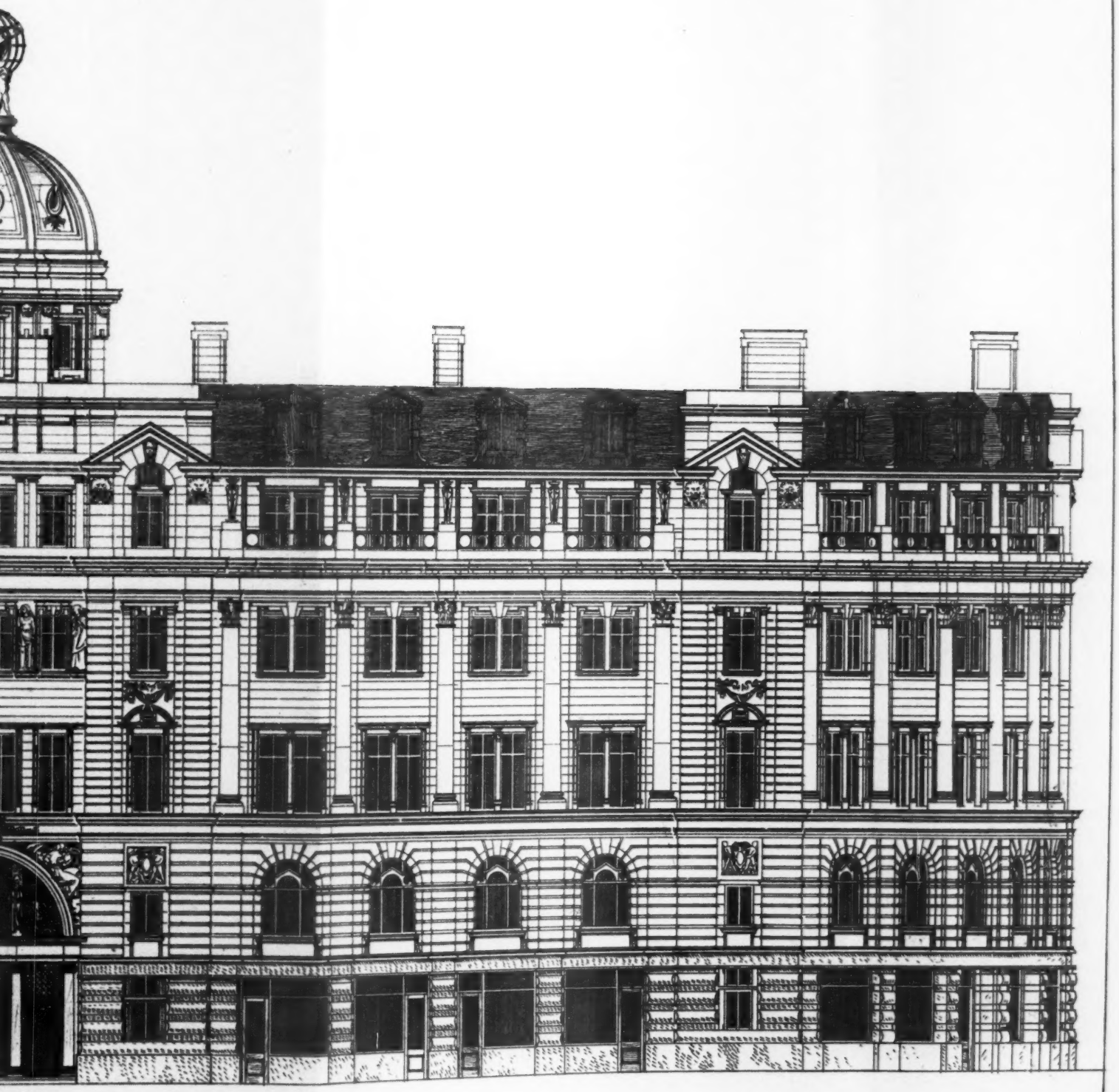
INTERIOR OF WESTMINSTER CATHEDRAL AS AT PRESENT SEEN.



ELECTRA HOUSE, FINSBURY: PRINCIPAL EL



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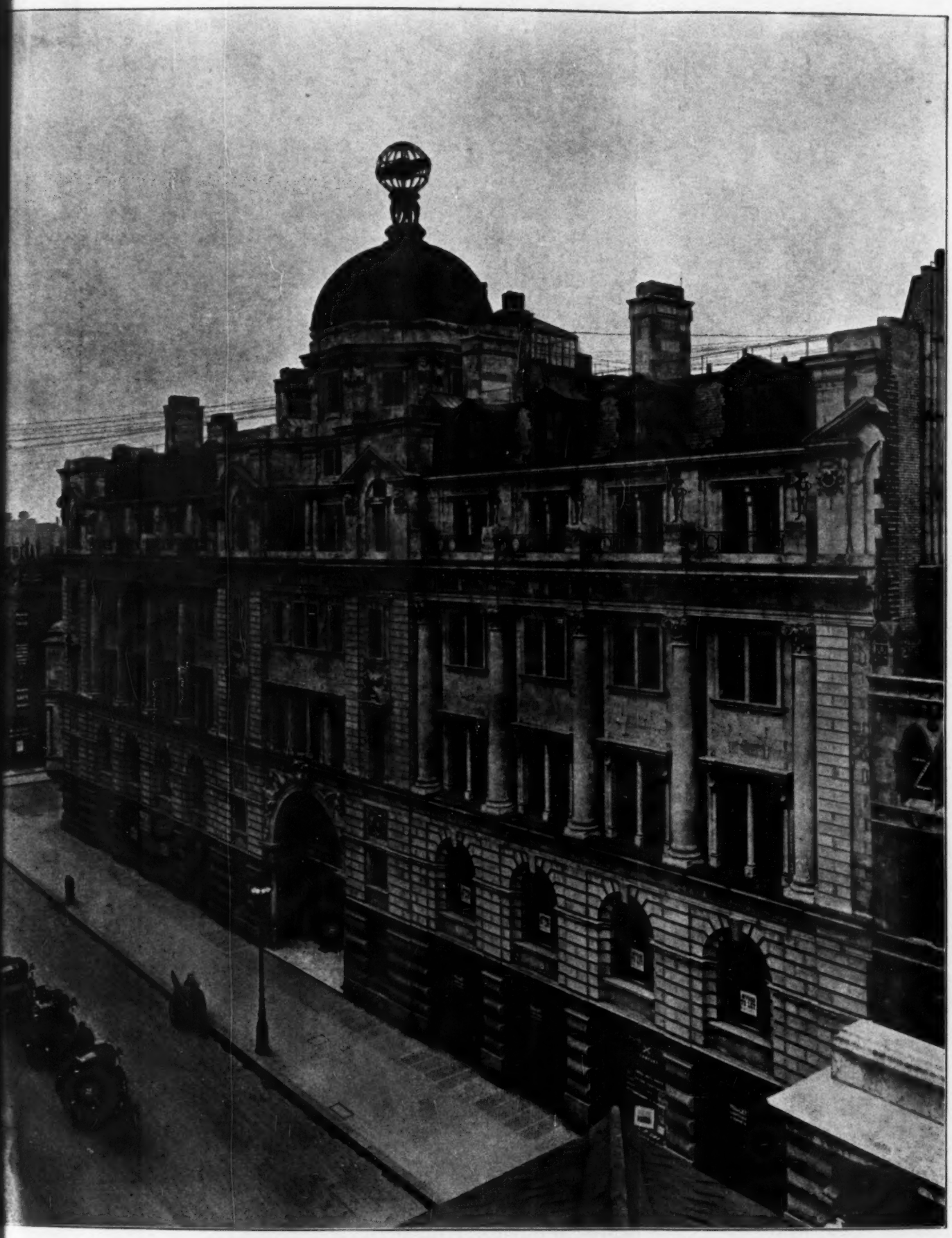
NCIPAL ELEVATION.—MR. J. BELCHER, A.R.A., ARCHITECT.



GENERAL VIEW.

ELECTRA HOUSE, FINSBURY.—

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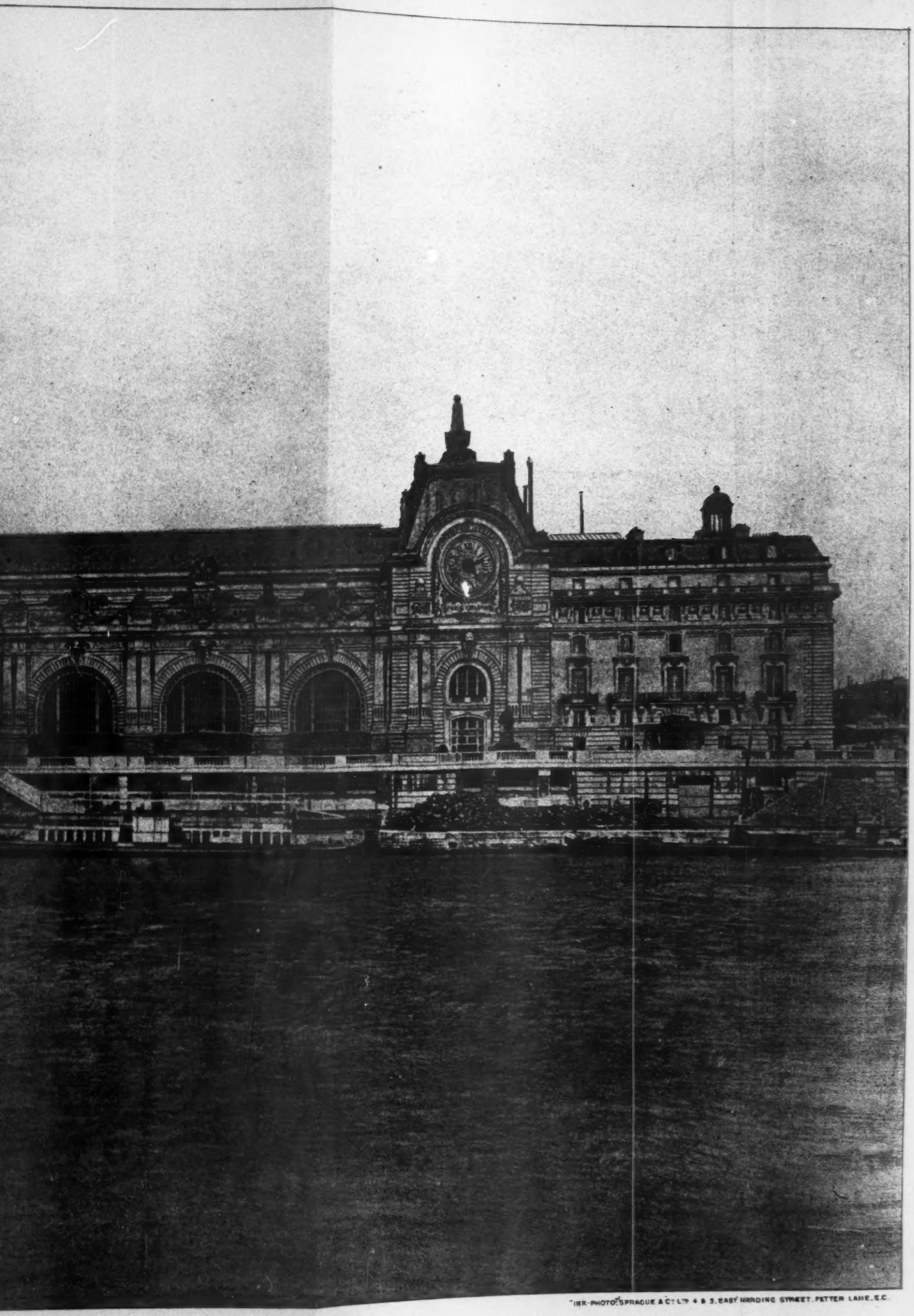
DETAIL OF ENTRANCE.

SBURY.—Mr. J. Belcher, A.R.A., Architect.



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WAY TERMINUS, PARIS.—M. LALOUX, ARCHITECT.

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"LES DANAÏDES."—M. Jean Hugues, Sculptor.

Exhibited at the Paris Salon, 1903.

R. A. Prize Design, 1903.

DECORATIVE PICTURE: "CHA

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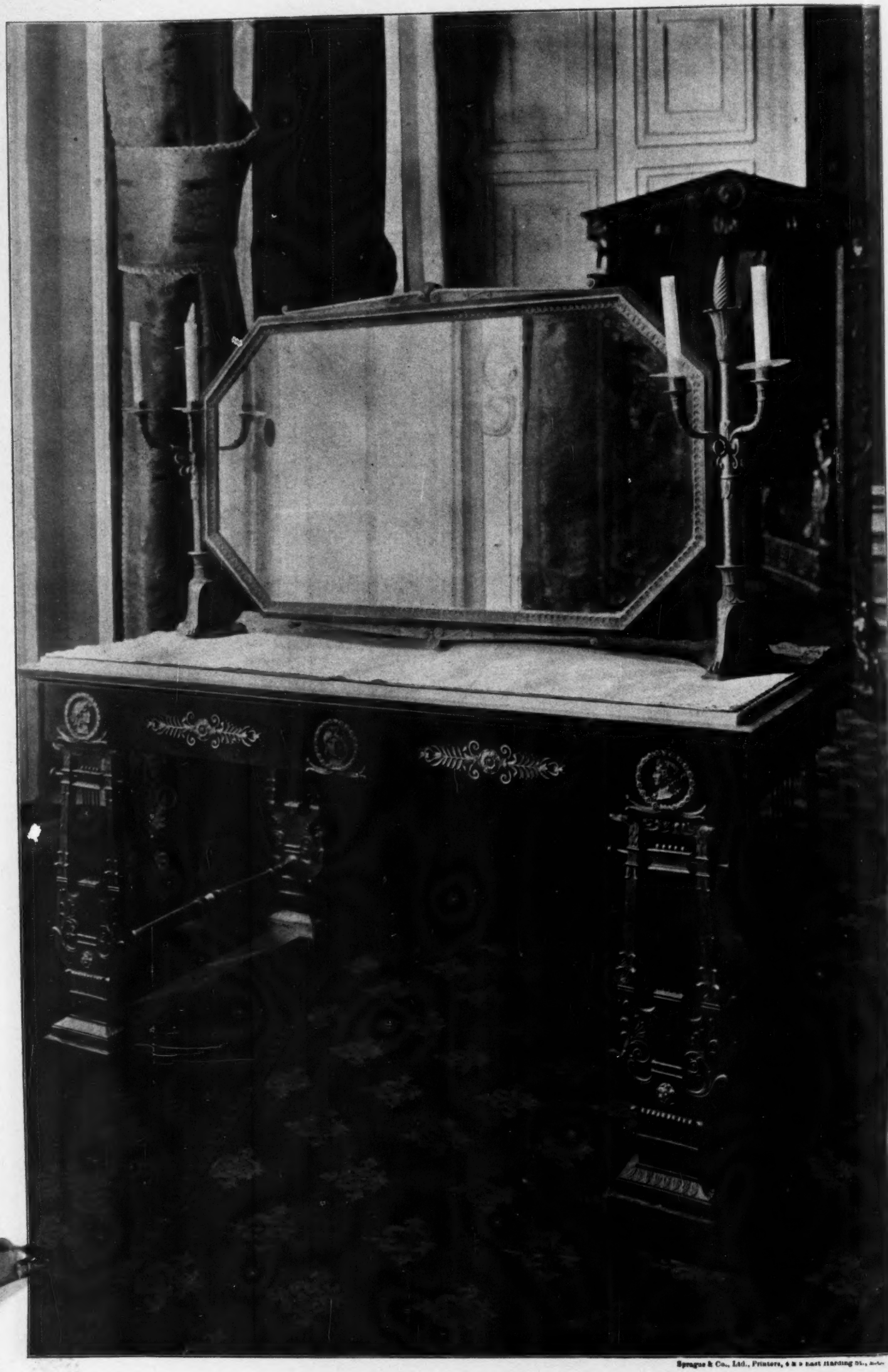
URE: "CHARITY."—By Miss Lilian Price-Edwards.



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STATE BED ROOM: THE DRESSING-TABLE.

EMPIRE FURNITURE AT THE BRITISH EMBASSY, PARIS.

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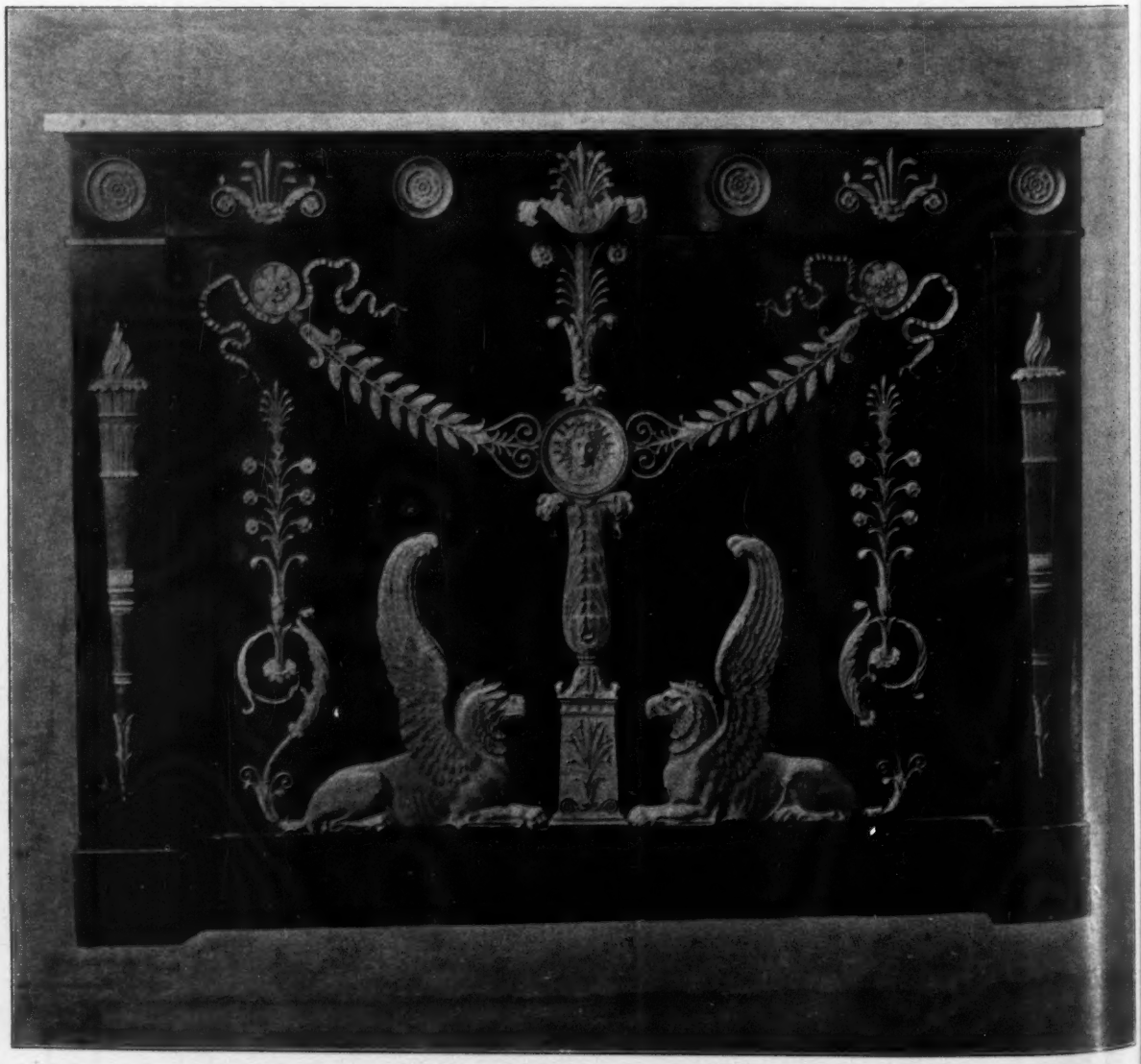
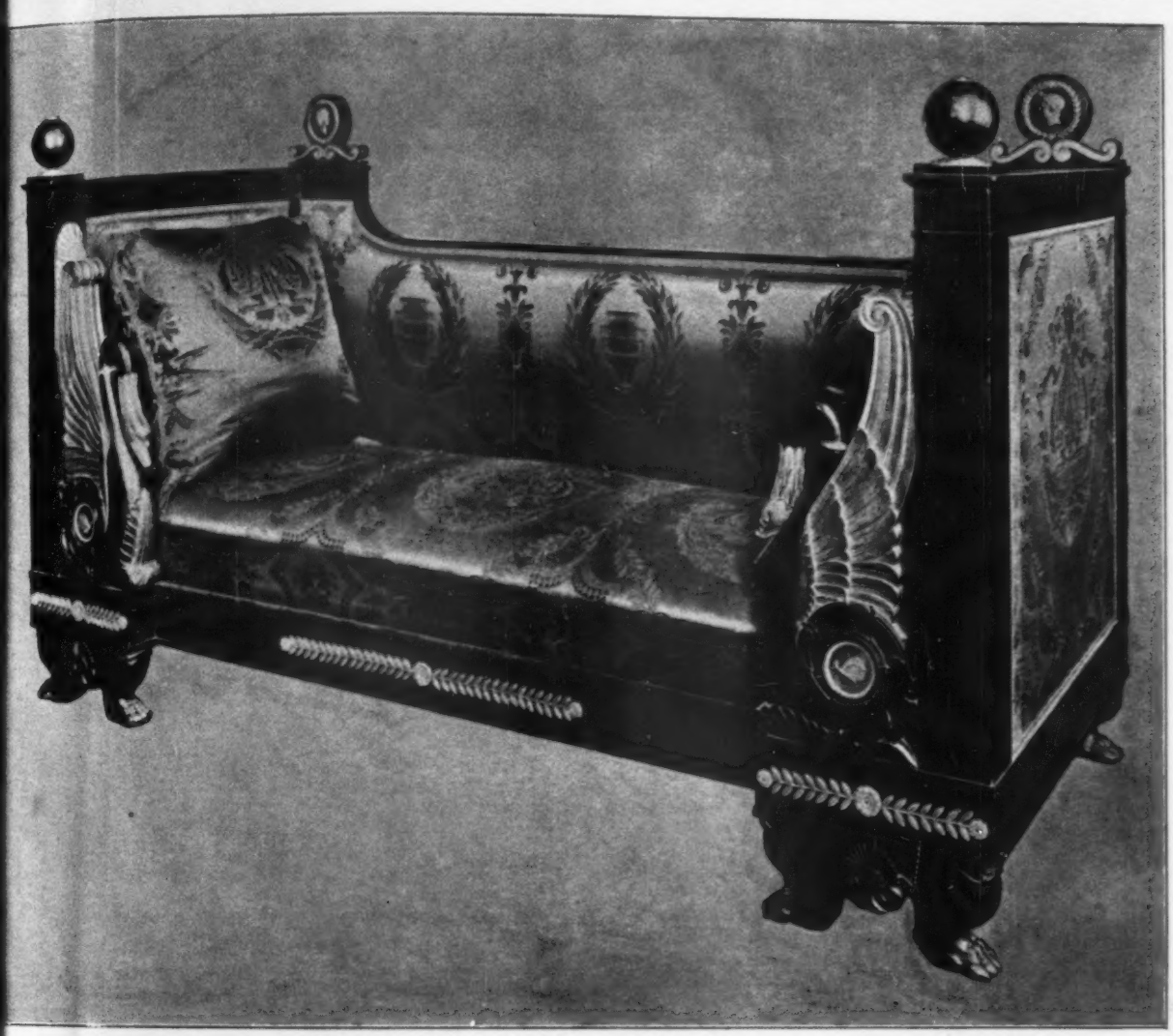
THE KING'S BED ROOM.

EMPIRE FURNITURE AT THE BRITISH EMBASSY, PARIS.

STATE BED ROOM : A WRITING-TABLE.



STATE BED ROOM : A COMMODE.



STATE BED ROOM: A COUCH.

STATE BED ROOM: A COMMODE.

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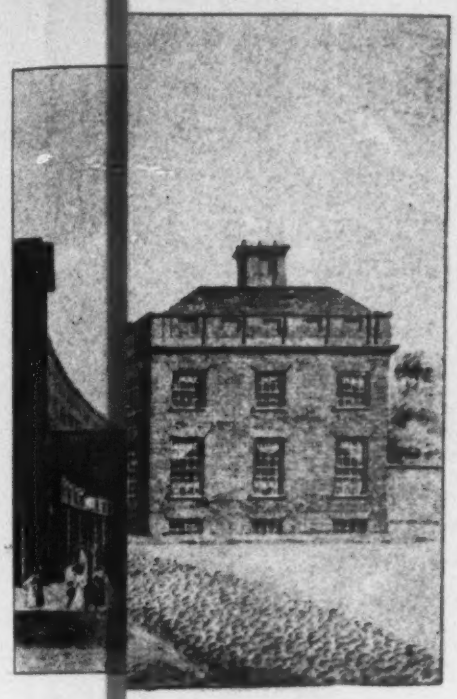
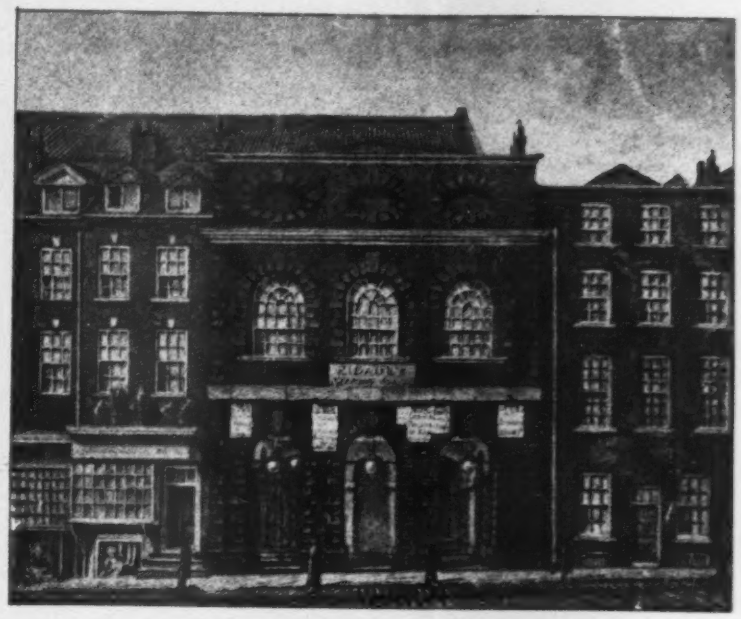
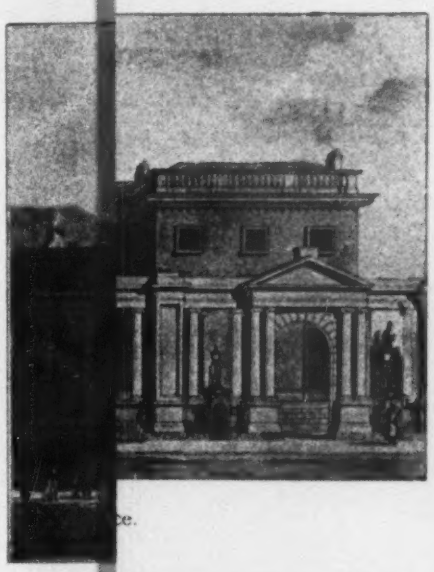




Handel's Opera House, Haymarket *(by Vanbrugh)*.



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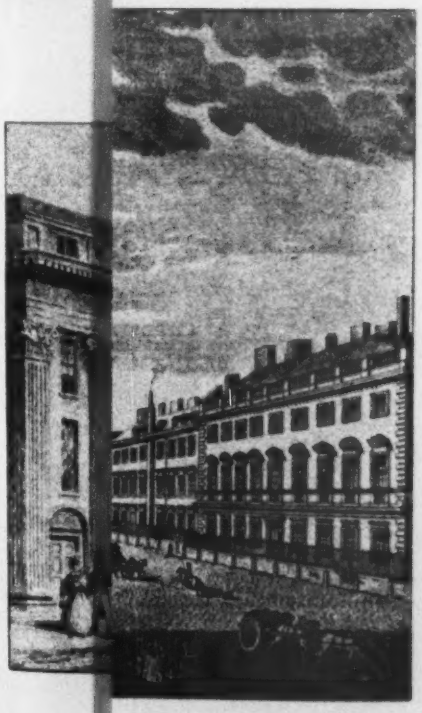
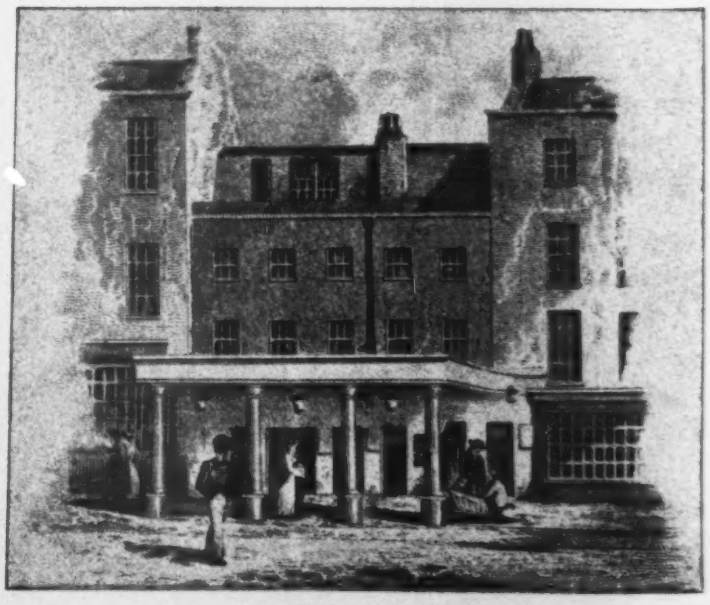
Garden Front of Carlton House.





Old Haymarket Theatre.

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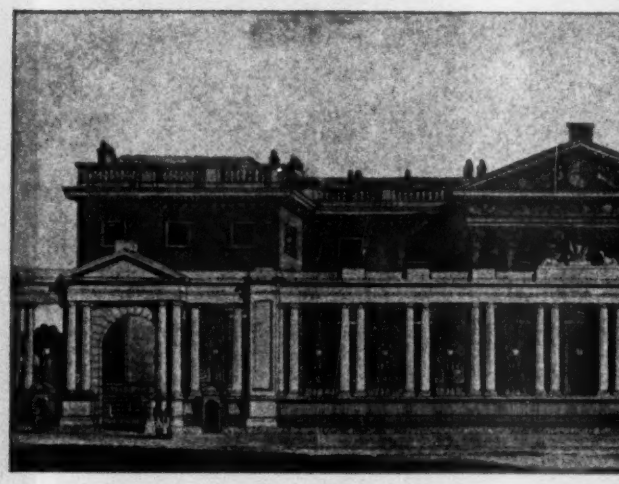
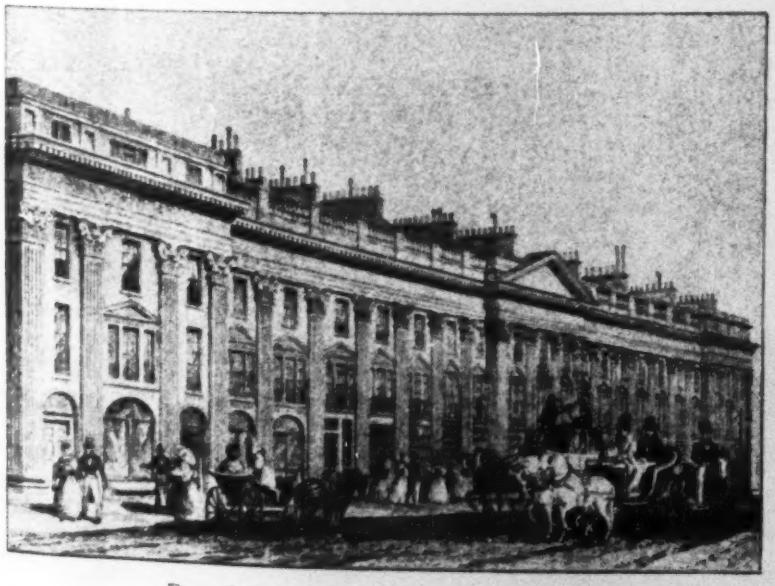
Regent's Quadrant with the Colonnade.

Old Carlton

View showing Carlton House Screen.

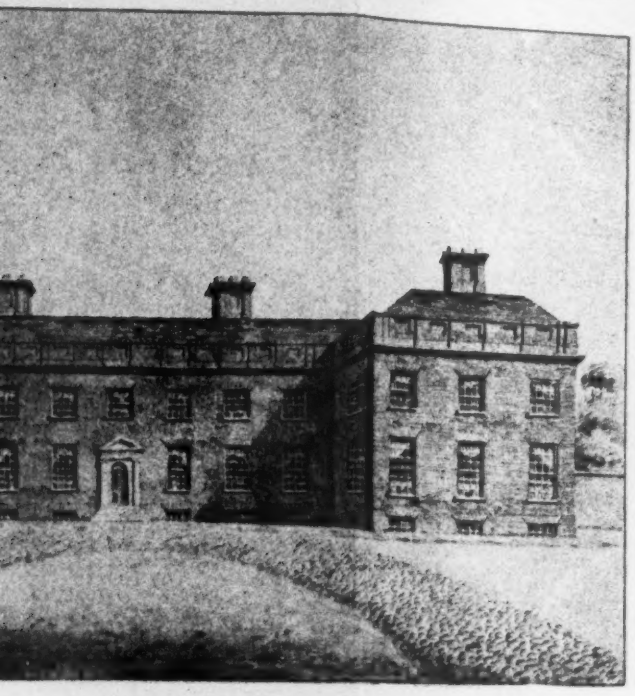


New Carlton House and Screen

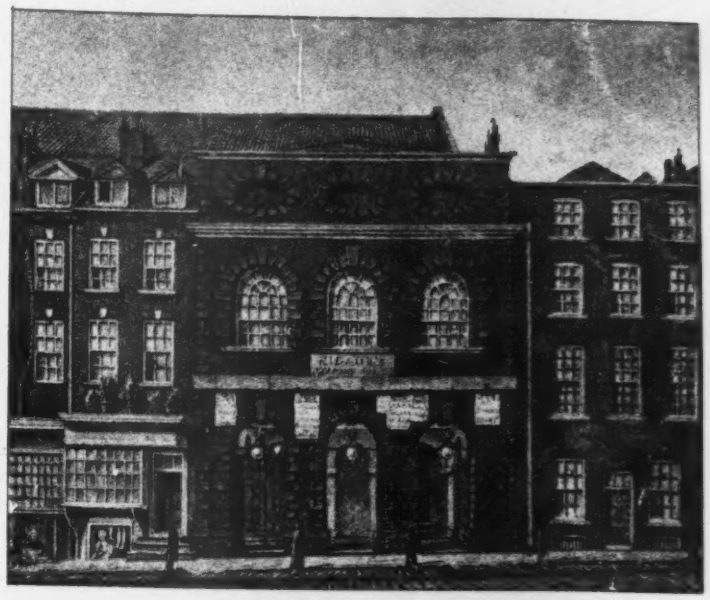


Part of Regent Street as originally built.

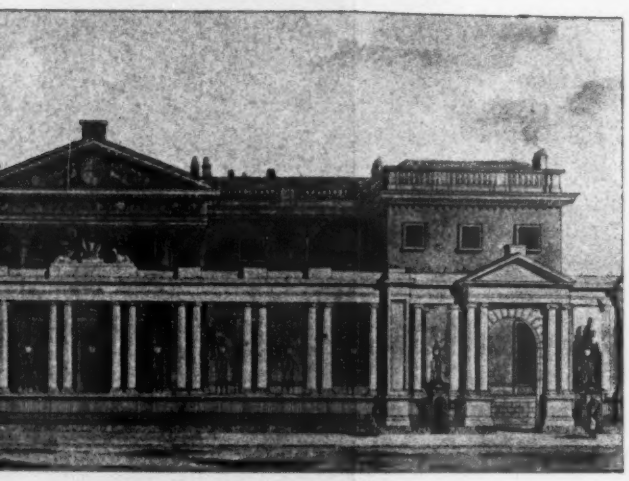
St. James's Square at the end of



Old Carlton House.



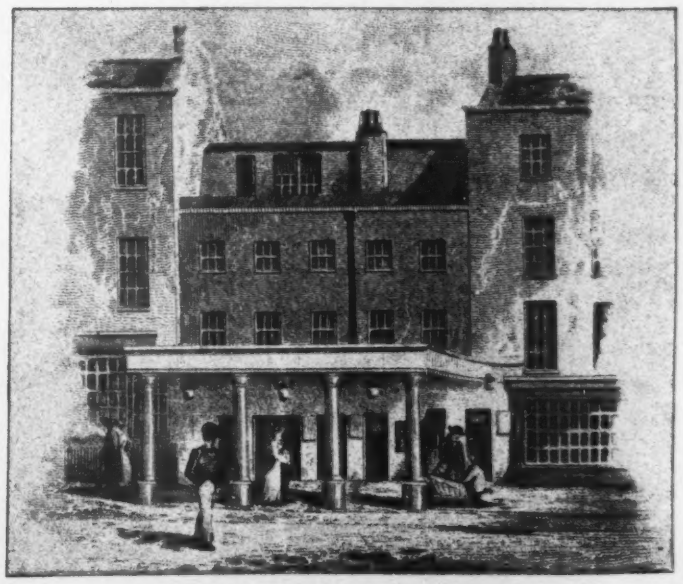
Handel's Opera House, Haymarket *(by Vanbrugh)*.



se and Screen, facing Waterloo Place.

Garden Front of Carlton House.

t the end of the XVIIIth century.



Old Haymarket Theatre.

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

INTERIOR OF THE R.C. CATHEDRAL, WESTMINSTER.

THE drawing shows the interior as it appeared early in December. Since that time the great painted crucifix seen amidst scaffolding on the left of the picture has been hoisted in position over the entrance to the choir, suspended from three wrought-iron chains below the crown of the western arch of the "crossing." The preparations are also shown round about the altar that were at the time being made for the ceremony of the enthronement of the new Archbishop, which took place on Tuesday last. The curtains shown in the arcade on the right have also been removed, giving a view into the ambulatory and side chapels. In these side chapels a beginning has already been made with the marble and mosaic work that is intended eventually to cover the brick walls and concrete domes of the church. A chapel on the north side has been completed, and on the south side a chapel—a gift of Lord Brampton—is being rapidly pushed forward.

It may be many years before this great work of decoration is complete; meanwhile, the simplicity and great scale of the interior has an impressive effect in itself, which will perhaps not be surpassed by the more gorgeous effect which will be produced when the scheme of the late Mr. Bentley has been carried out in its entirety.

ELECTRA HOUSE, FINSBURY.

THE three illustrations give a good idea of the fine and dignified building which Mr. Belcher has erected at Finsbury. The elevation was specially drawn from materials furnished to us by Mr. Belcher; the general view and the detail of the doorway are from photographs.

THE ORLEANS RAILWAY TERMINUS, PARIS.

THIS is a good example of what may be done with a railway station when a company are minded to make a good thing of it, and will employ a first-rate architect, as French railway companies will, instead of getting a commonplace front made by their engineer.

The station occupies the site of the old Cour des Comptes, which so long stood as a blackened ruin since its destruction in the Commune riots. It was completed, or nearly so, at the time of the 1900 Exhibition. The public enter directly from the Quai into the booking halls, and descend by stairs to the station platform, which is far below the ground level. The effect of the semicircular panelled roof, with bands of light at intervals, is very good. The building is largely decorated, externally with sculpture, internally with paintings, by many of the first sculptors and painters of the day.

SCULPTURE: "LES DANAÏDES."

THIS fine work was one of the central objects in the sculpture hall of the Paris Salon last year; we commented on it specially at the time in our review of the Salon. M. Jean Hugues is the sculptor.

The reader should notice the poetic significance, in connection with the hopeless task of the Danaids, of the melancholy heads, and the chains festooned from one to the other, which form the decoration of the rim of the basin.

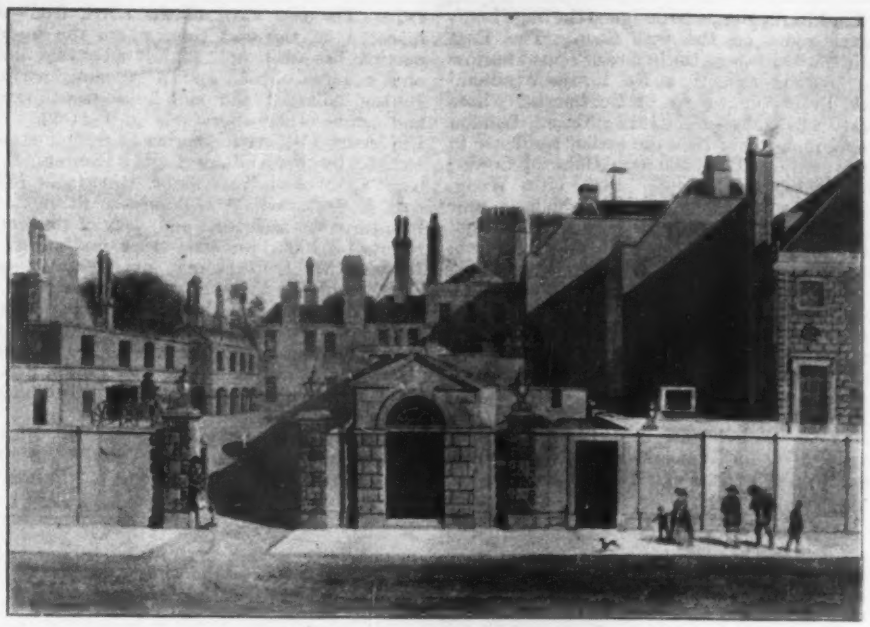
DECORATIVE PICTURE: "CHARITY."

THIS is the design which gained for its author, Miss Lilian Price-Edwards, the Royal Academy's prize for a painting for the decoration of a public room. We have already remarked upon it in our recent review of the Academy students' designs, and need not repeat what we then said.

EMPIRE FURNITURE AT THE BRITISH EMBASSY, PARIS.

THE furniture illustrated is part of the collection included in the Garde Meuble of the French Government, and was transferred to the British Embassy at the time of the visit of the King of England to Paris.

It is all of the period of the First Empire, when a Roman fit came over France in regard to the design of furniture and fittings; and though there may be something too much of ostentation about it, and it is not in the best style of art, it nevertheless possesses a stately and a sumptuous character worthy of that extraordinary period when France had for her ruler one of the greatest geniuses the world has ever seen.



Carlton House Entrance in 1734.

OLD LONDON VIEWS IN THE REGENT-STREET NEIGHBOURHOOD.

THESE views, which are reproduced from drawings and engravings in the Crace collection, are given in illustration of the article in this issue which describes the changes in this part of London during the past century. The view of old Carlton House goes beyond our period, as it dates from 1756; but it is an interesting contrast to the modern Carlton House below. It is from a drawing by Capon, showing the altered front as seen from within the forecourt, before Sir Robert Taylor had cased the red brick with stone. The indication of the cobble-stone paving for the drive is characteristic of the period.

We append here an illustration showing the entrance to Carlton House from Pall Mall as it appeared in 1734, when occupied by Frederic Prince of Wales. The colonnade of the new Carlton House took the place of the gates, piers, and walls shown in this illustration.

The other views in the plate speak for themselves.

(*Continued from page* 12.)

in Pall Mall that he gave to his son Edward, being, it seems, that which, as No. 62, was sold for 21,000*l.* at the Mart on November 17, 1897; on February 9, 1894, was offered for sale No. 49, described as a freehold building estate.

The foundation stone of Marlborough House is inscribed—"Laid by Her Grace the Duchess of Marlborough, May the 24 June the 4th 1709." Her descendant, the third duke (*obiit* 1817), added the second floor to Wren's building for which Dutch bricks had been used; his successor erected the riding-school which in 1863 gave way to the stabling of forty-five stalls and twelve loose boxes (Smith and Taylor, contractors), by Pennethorne, who made extensive alterations in the main block; in 1885 a floor was added to each wing, and the balustrade was removed. At the renewal of the lease by the Crown for fifty years in 1785 the house, standing in 2¼ acres of ground, was valued at a rental of 600*l.*, six years ago it was rated at 4,449*l.* In 1824 George, fourth Duke of Marlborough, sub-let the house to Prince Leopold, who lived there until his call to the Belgian throne in 1831. At the expiration of the lease the property was acquired for Queen Adelaide, who resided there until her death in 1849. In 1850 it was settled upon Albert Edward, Prince of Wales, who went into residence on his marriage in 1863. Meanwhile the Vernon Collection and other pictures of the English School had been removed into the ground floor rooms after Queen Adelaide's decease. In 1852-3 the upper rooms were appropriated to the Schools of Design and the Department of Practical Art, of which Sir Henry Cole was superintendent—the exhibits consisting mostly of purchases from the Great Exhibition and casts from the schools established in 1836-7 at Somerset House under the Board of Trade; five years later the Schools of Design migrated from Marlborough House to South Kensington, and in 1859 the pictures also were removed thither.

On the north side are the Alliance Insurance Offices, by Mr. R. Norman Shaw, R.A., and having a sign [November 14, 1885] hand-forged in iron by Alfred Newman; No. 29, the Royal Exchange Assurance Offices, by Professor Aitchison [August 15, 1885], with a frontage in St. James's-square; and Messrs. Foster the auctioneers' premises, by Messrs. Karslake and Mortimer, 1830. The front of Nos. 16-7 was designed, we believe, by Sir Charles Barry, for the Imperial Fire Insurance Company; the new premises by Mr. E. Williams, for Wilkinson's Sword and Equipment Co., established in 1772, stand on the site of Nos. 27-8, Pall Mall, and Nos. 24-5, St. James's-square. Carlton-mansions, by Messrs. Joseph and Smithem, 1892, displaced No. 14, Colt's Firearms Co., by E. T'Anson (*obiit* 1888); the site of Nos. 13-4-5 was let on July 17, 1891, on an eighty years' building lease for 1,525*l.* per annum, equivalent to 8s. 1d. per sq. ft., or a fee simple at, say, thirty years' purchase of 528,150*l.* per acre. On the south side is a block, Nos. 122-4 [June 4, 1881], designed by A. M. Peebles, City Architect (*obiit* 1891), for the Life Association of Scotland.

St. James's Square, 1665 (see lithograph).—To the discomfiture of students of London topography, all the houses, Nos. 1-7 excepted, were renumbered in November, 1884, and Nos. 24-6 have since been absorbed; we have not space to follow the changes thus involved: the chief structural alterations are on the west and south sides. Cleveland House, formerly No. 17, owned by the Vane family since George I.'s time, was sold after the death of the last Duke of Cleveland by his heir, Lord Barnard, in May, 1894, for, it is said, more than 60,000*l.* The site, 11,300 ft. superficial, is that of a block of shops and offices, No. 19, built by Messrs. Holloway Brothers from designs by Messrs. Rolfe and Matthews, and occupied, in part, by the War Office. The London Library (1840) was removed in 1845 from No. 49, Pall Mall, to Beauchamp House, of which house (shared until 1874 with the Institute of Actuaries and Statistical Society) and of premises in Duke-street in the rear the subscribers bought the freehold in 1879 for 21,000*l.* On December 5, 1898, were opened the new and enlarged premises erected at a total cost of 19,445*l.* after designs by Mr. J. Osborne Smith, Messrs. W. Cubitt and Co. being the general contractors for 17,338*l.*; the front of Portland stone cost about 1,400*l.* On the south side have been built the north fronts of the Junior Carlton Club, the Royal Exchange Insurance Offices, No. 23, by Professor Aitchison, and Wilkinson Sword Co.'s on the sites of Nos. 24-6, already cited. Earl de Grey, President in 1839, used to receive the Royal Institute of British Architects at No. 4—the house, since inherited by Lord Cowper from the Greys, Earls of Kent, had been remodelled after a fire in 1725,

by Lord Burlington, who designed the large Louis Quinze room on the first floor. The East India Club supplants the homes of Lord Thurlow and Sir Philip Francis; at No. 13, the Windham Club, lived John, Duke of Roxburghe, whose library was sold there in 1812; No. 32, London House, replaced in 1820 the earlier residence in the square of Thomas, fourth Duke of Leeds; the "Picture of London," 1823, cites Wedgwood's glass and china shop, which is now No. 8, the Sports Club. In 1890 the Portland, until 1825 the Stratford, Club migrated from their house, since rebuilt, in Stratford-place, W., to No. 9, which is part of the house of James, second Duke of Ormonde, who died in exile in 1745, and afterwards of the Duke of Chandos. Johnson refronted with stucco, after the Italian manner, No. 18, formerly No. 16, Lord Castlereagh's; in 1805-19 Soane altered and enlarged for the Earl of St. Germans the house now Lord Derby's; in 1877 the War Office gave 46,300*l.* for Winchester House (formerly No. 19), built by R. Furze Brettingham for the 1876. The two antæ of the north front are repeated on the east side, where the middle portion has also two slightly-advanced antæ and a raised attic and a receding portico. Burton enlarged the club-house southwards, and made other alterations in 1841-50. The University Club at the corner of Suffolk-street, 1822-6, by Peter John Gandy-Deering, R.A. (*obiit* 1850) and W. Wilkins, R.A. (*obiit* 1839) cost 16,800*l.*, with 5,500*l.* for the fittings and furniture, the architects and clerk of the works received 1,100*l.*; an attic story was added in 1850-1. No. 1, Ransom's, now Barclay and Co.'s, bank is by William Atkinson; F. P. Cockerell remodelled the interior and designed the front of No. 5A [April 24, 1875] for the Royal Society of Painters in Water Colours, who held their first exhibition at No. 20, Lower Brook-street in April, 1805, in rooms built by Vandergucht. The sculpture in the new front, of Portland stone, is by Signor Fabrucci. Burton built some houses and shops in 1822-8; the house now numbered 19, and 1, Cockspur-cast-iron fluted columns, with cornice and balustrade and an entablature of Bath stone, along the whole south side extending over the footpath, and a similar but shorter colonnade between two arcades in stuccoed brick along the east side. Thus they skilfully overcame the fall of nearly 7 ft. on the Haymarket side, as the arcades admitted of easy changes in their proportions, and enabled them to break the levels of the cornices at the divisions; they omitted the cornice from above five of the six arches at the lower end on that side. Bubb designed for the east front the basso-relievo, executed in lithargolite, of the Progress of Music with central figures of Apollo and the Muses. For Thomas Holloway, the ground-landlord, Nash and Repton added the western arcade, in which was the entrance for sedan-chairs, on land he leased from the Commissioners; those improvements, comprising the shops along the north and south, cost about 50,000*l.* Having been burned out on December 6, 1867, the Opera House was reconstructed for the late

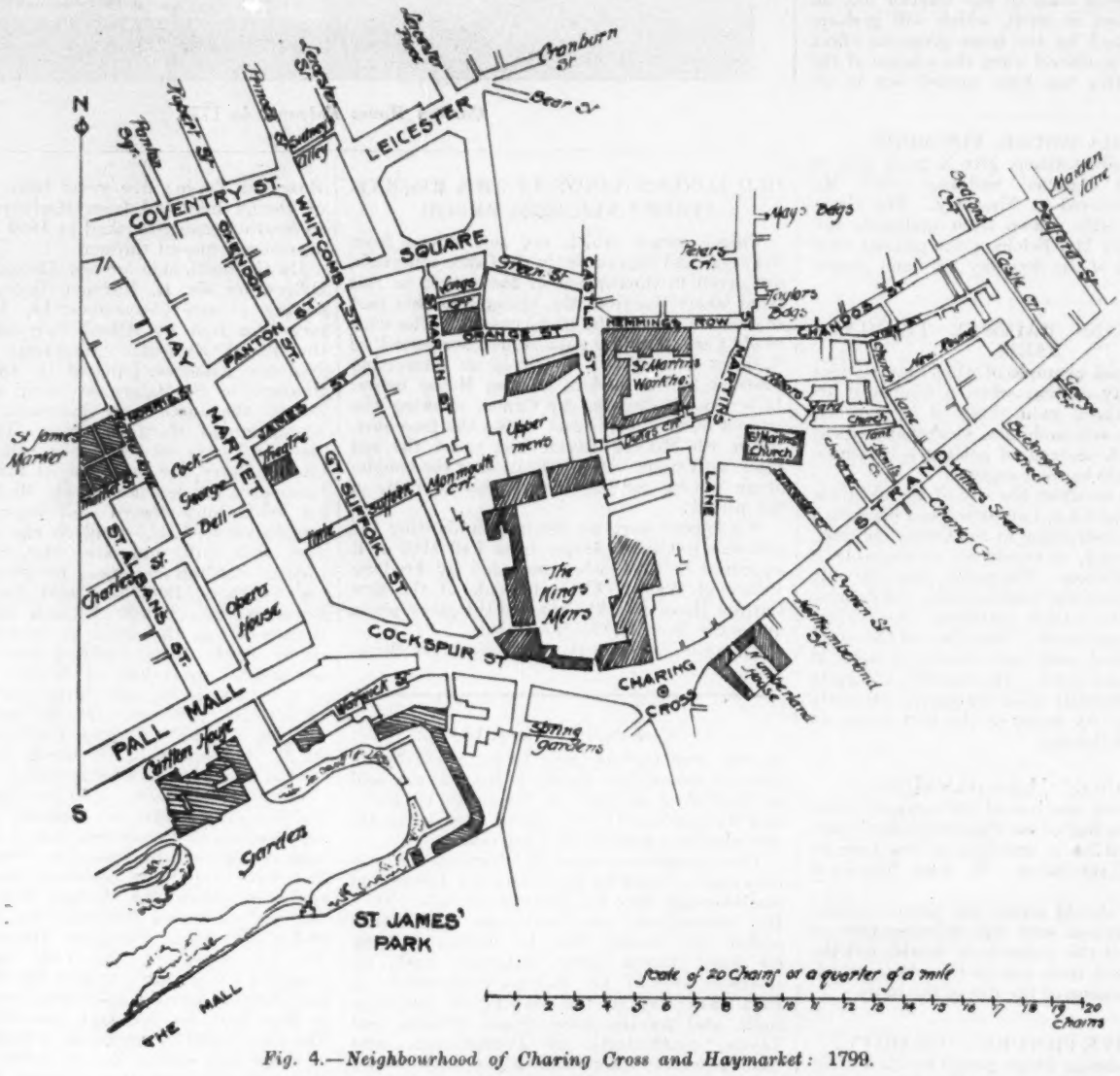


Fig. 4.—Neighbourhood of Charing Cross and Haymarket: 1799.

fourth Duke of Leeds; and to the sixth Duke of Leeds at No. 3 succeeded in 1838 the Tithe and Copyhold Commissioners, who, as in later days the Land Commissioners, were merged, 1889, in the Board of Agriculture. No. 3 is ascribed to Soane, who in 1815 altered and enlarged Lord Hardwicke's. The equestrian figure of William III., by Bacon the younger, was set up in 1808 on the pedestal that had been placed in the central basin in 1732; Samuel Travers's will was disputed in Chancery during more than one hundred years; his bequest made in 1724 became forgotten until an accidental discovery of the money in a list of unclaimed dividends.

Pall Mall East and Suffolk-street.—The College of Physicians, opened in July, 1825, and the Union Club, both by Sir Robert Smirke, form one group; the College, which has a hexastyle Ionic portico and a library lighted with three elegant lanterns, cost 30,000*l.*; the statues of Linacre, Harvey, and Sydenham in the niches are by Henry Weekes, R.A., street, facing westwards, is by Henry Rhodes (*obiit* 1846), architect and surveyor to the Woods and Forests. In Suffolk-street, on the east side, is a house once occupied by Cresy the architect, designed after that of Andrea Palladio at Vicenza; in 1823-4 Nash and Elmes built the Gallery of the Royal Society of British Artists, the Roman Doric portico being by Nash, and the galleries by Elmes.

Haymarket (Fig. 4).—The original Opera House or King's Theatre (see lithograph), by Vanbrugh, was opened by Betterton on April 9, 1705. That house, of which Robert Adam re-arranged the interior in 1782 for Michael Novosielski, was burned in July, 1789, being then Ridaud's fencing academy. Novosielski entirely rebuilt the house upon an enlarged area in 1790-1, introducing the continental horse-shoe shaped auditorium, with the stage to the south and a concert-room to the east. Repton and Nash greatly altered the exterior in 1816-9. They built a Roman Doric colonnade, having Lord Dudley, as lessee, by Messrs. George Trollope and Sons, who completed the work in nine months, at an outlay of 50,000*l.*, after designs by Lee. In 1874 the premises were offered for sale; in the following year Messrs. Moody and Sankey hired them for their "revival" services. On May 30 and June 15-6, 1892, the materials and effects of Her Majesty's Theatre, the United Hotel, Nos. 70-1, Haymarket, and No. 1, Pall Mall, were sold at auction. A highest bid of 140,000*l.* was refused on July 25, 1894, for the vacant site of 37,440 ft. superficial, with a Crown lease for seventy-six years unexpired at a yearly ground rent of 4,200*l.* C. J. Phipps (*obiit* May, 1897) made plans and designs for a theatre, with a hotel, restaurant and café, on the site. The theatre [May 8, 1897, two-page view] having a frontage of 86 ft. to the Haymarket, a depth of 150 ft. from north to south, and accommodation for nearly 1,600, was opened by Mr. Beerbohm Tree as Her Majesty's Theatre on April 28,

1897. There are two separate staircases and exits for each part of the house, the auditorium is unusually wide; over the proscenium opening, 35 ft., is a lintel of a solid baulk of fir, with a brick relieving arch turned over, and, as a precaution against the spread of fire, a wide clear space exists between the proscenium wall and the wall that carries the roof of the auditorium; the stage has no rake and is 60 ft. deep. Mr. R. Walker was associated with Phipps for the internal decorations and colour scheme, the general builder's work being by Mr. H. Lovatt, at a cost of about 55,000*l*. Mr. L. H. Isaacs and Mr. H. L. Florence completed the fabric of the Carlton Hotel in Pall Mall (opened on July 15, 1899) after Phipps's drawings, with modified plans for the interior; the decorations and equipment were by Messrs. Waring and Gillow. C. J. Phipps entirely rearranged for Sir Squire Bancroft the interior of the Haymarket Theatre, which Nash had built, 1820-1, for Morris and Winston, successors to George Colman the younger, on a site measuring 61 ft. by 135 ft., a few feet south from that of John Potter's New French Theatre, opened on December 29, 1720, and since known as the Little Theatre (see lithograph). Of the famous snuff and tobacco shops in this quarter No. 34, Haymarket, Fribourg and Treyer's, has its original double-bowed front; Fribourg and Pontet removed from the Rasp and Crown, No. 124, Pall Mall, to No. 23, Haymarket, in or about 1880; Claude Pontet succeeded Fribourg, his father-in-law, at a shop near the Opera Colonnade, north side of Pall Mall; Frank Pontet retired from business at No. 24, Cockspur-street, some fifty years ago. No. 21, Coventry-street, by the sign of the Highlander, Thistle, and Crown, opened by David Wishart on December 31, 1720, the day of Prince Charles Edward's birth, is believed to be the first that displayed a figure of a Highlander, and was a favourite resort of Jacobites; the house was pulled down for the widening of Coventry-street in 1880-1. The reconstruction of No. 16, James-street in 1887 practically destroyed what there can be little doubt was the Tennis Court (Fig. 5) belonging to Shaver's Hall, the gaming-house occupied *temp.* Charles I. by Simon Austbiston, barber to Philip, Earl of Pembroke and Montgomery. A survey made in 1650 of Shaver's Hall, with its bowling-alleys, walks, orchards, and other appurtenances, covering about 3½ acres between Coventry-street and "the Earl of Suffolk's brick wall south," cites "one faire Tennis Court very strongly built with Brick and covered with Tyle." At the Institute are two sectional drawings of the Tennis Court, conspicuous for its massive cornice, and converted in 1886 into a military clothier's depot. The premises next east, by Mr. D. Cubitt Nicholls, 1890, replace an old timber-fronted house, known as the Barn. The Comedy, formerly the Alexandra, Theatre in Panton-street [June 18, 1881], by T. Verity (*obiit* 1891), is planned without corridors, so that an audience of 1,200 can quickly pass out into fire-proof staircases or the two streets, each part of the house has two or more separate means of egress, and the dress circle is entered from the street level through a vestibule; on the site stood a house where Addison wrote "The Campaign."

Coventry-street.—Pennethorne opened the east end into Leicester-square for the Woods and Forests in 1843-4. Under their Act 40-1 Vict. c. 235, the late Metropolitan Board of Works widened the street from 40 ft. to 60 ft. along its south side, and Princes, now Whitcomb, street, on its west side, between Coventry and Panton streets; the net cost of the improvements, completed in April, 1881, by Nowell and Robson, contractors, amounted to 100,446*l*. Scott's restaurant, by Messrs. Treadwell and Martin, 1893-4, at the corner of Great Windmill-street, marks the site of Piccadilly Hall,* whereof the tennis court, as converted into the Argyll dancing-rooms, has given way to the Trocadero, one of the well-nigh countless restaurants which during the past thirty or forty years have been erected in the locality.

SOME NOTABILIA.

Regent-street (*East Side*).—14, Nash, until he retired, 1831, to East Cowes Castle, which he built for himself; he died there, May 13, 1835. Opened as the Gallery of Illustration, 1849, by Grieve and Telbin for their diorama "The Overland Mail"; Mr. and Mrs. German Reed; Junior Carlton Club; Pall Mall Restaurant; Junior Constitutional Club. 16, Parthenon Club; Raleigh Club. Argyll Rooms: Philharmonic Society, 1813, until the fire of February 6, 1830. *Great Marlborough-street.*—49, Mrs. Siddons, removed, 1804, to Princes-street, Regent-street: site taken for St. John the Baptist Church—Sir A. W. Blomfield. *Argyll-street.*—30, Mme. de Staël; 9, Argyll House, the Duke of Argyll, who sold it to Lord Aberdeen; site of the Cirque, or Hengler's Circus, 1872; opened January 11, 1896, as the National Skating Palace.

Regent-street (*West Side*).—New Gallery, on site of Newman's livery and bait stables; opened May, 1888. Burlington Restaurant, site of the White Horse. *Conduit-street.*—Limmer's Hotel, rebuilt in or about 1895; "May 2, died, aged 58, Mrs. Limmer, of the Prince of Wales's Coffee-house in Conduit-street, Hanover-square" (*Gentleman's Mag.*, 1807). *Beak-street.*—1-13, Blanchard's, one of the last of the old-time restaurants; pulled down 1900. *Langham-place.*—All Souls' Church, built at the cost, 15,994*l*., of the Commissioners; picture on east wall, Christ crowned with thorns—R. Westall, R.A.

Pall Mall.—First lighted with gas by Winsor, 1807; the original title-deeds of Nell Gwynn's freehold bought at the sale of A. Daly's library in New York, March 18-24, 1900; her looking-glass at the Army and Navy Club. At (old) Schomberg House, after Cosway, miniature painter (1799), the Polygraphic Club; Mrs. Abington, died March 4, 1815, "at her house in Pall Mall"; No. 25, Scott visited Lockhart in 1826-7—front altered; Dillon's print-shop—the Royal Academy schools opened there on January 28, 1769; 59, site of the Smyrna Coffee-house, *temp.* Anne; 50, Robert Vernon, his collection of pictures; Kelly's Saloon, at south end of Opera Colonnade; road into the Mall passing the Friary Court, made 1850; Queen's Chapel, since the German Chapel Royal; the Guard House, St. James's Palace, S. P. Cockerell (*ob.* 1827); statue of George III., 1837—M. C. Wyatt.

Carlton House-terrace.—John Crockford, 1840, until his death in 1844, on retiring with a reputed fortune of 1½ millions from his gambling-house in St. James's-street; W. E. Gladstone, at 11, in 1857-77, at 13 (the house of his wife's mother, Lady Glynne), and at 21 (Lady Frederick Cavendish's); 18, the late Lord Granville, who sold his interest, 1887, to Mr. de Murrietta for 60,000*l*.; No. 16, decorated throughout for the late Mr. Alfred Morrison by Jackson and Graham after an entire scheme in cinquecento style by Owen Jones, who completed the work just before he died in April, 1874. *Waterloo-place.*—5, Geo. Robins, auctioneer; Rivingtons quitted 3 in 1890; 11, James Hogg lodged on the second floor in the winter, 1831-2; Guards' (Crimea) Memorial—John Bell (*ob.* 1894).

St. James's-square.—Windham Club, 13, formerly 11; 10, formerly 8, Lady Blessington; 12, formerly 10, W. E. Gladstone, 1890; Pall Mall Club; Blenheim Club; 8, Wedgwood's; Erectheum Club, Junior Oxford and Cambridge Club; the Sports Club; Junior Travellers' Club (to 12, Grafton-street in 1892); the earlier houses on the north side, at first called the Piazza, erected on land of Henry Jermyn, Earl of St. Albans, by Abraham Cowley and Baptist May, under a warrant dated September 23, 1664.

St. James's Market.—Established 1666 by Henry Jermyn, Earl of St. Albans, the chief meat and poultry market for the west parts of the town. Home in their girlhood of Nance Oldfield (at the Mitre tavern), of Emma Harte (Lady Hamilton), and, at the east corner house on the south side of the poultry market, abutting on Market-lane, of Hannah Lightfoot, the Quakeress; T. F. Dibdin founded the Roxburghe Club at the St. Alban's tavern, St. Alban's-street.

Haymarket.—Opera House, first performed in London Handel's "Rinaldo," 1711, "Acis and Galatea," 1732, "Israel in Egypt," 1739, "Belshazzar," 1745, etc.; Mozart's "Tito," "Figaro," and "Don Giovanni"; Rossini's "Semiramide" and "Zelmira," 1824, and "William Tell," 1839. The sale of hay which had continued during 300 years transferred to Cumberland Market, 1830. *James-street.*—Tablet, with date "1763," not in its original place; Tennis Court (interior), T. Blake's print, 1825. *Coventry-street.*—17, J. B. Papworth (*ob.* 1847); 6, J. B. Cramer; Lambert's, old shop-front, founded, at the sign of the Golden Cup, by Peter Archambo, goldsmith.

Fig. 5.—The Tennis Court, James Street, Haymarket: Pulled down 1887.

* Porter's very rare map, of about 1660, clearly marks the exact position of Piccadilly Hall and Shaver's Hall.

ACTON COUNTY SCHOOL COMPETITION.

THE Middlesex County Educational Authorities are proposing to erect a Higher Grade School for boys at Acton, upon ground recently acquired for public uses, and for this purpose they have agreed to spend a sum of 8,000*l.*, which is to include a caretaker's cottage. In the limited competition for designs lately concluded, seven competitors were invited, and small premiums offered for the best work; we are pleased to observe that in two respects this contest differs from the Acton Town Hall competition, which we also review in the current issue; first, the scale laid down for the drawings is 16 ft. to 1 in., which saves an enormous amount of labour; and, second, that the award of the assessor, Mr. Leonard Stokes, is one with which we agree.

Generally speaking, the designs submitted are of an inferior quality and disappointing; we had anticipated greater efforts, worthy of the important educational movement of to-day, which would have produced dignity and directness of purpose in the new buildings, thereby extending an educative influence to the students.

Mr. A. H. Tiltman merits the first place with a Tudoresque brick and stone design, simple yet pleasing in its detail, and well suited to the materials employed. The central hall is the basis of all the schemes, and in the selected plan, class-rooms and masters'-rooms surround this large department on the ground floor, two laboratories and the art-rooms, with eastern aspect, are approached from a gallery on the first floor, whilst the dining-room and kitchen are in the basement. We could have wished to see the large hall freed from low buildings, but in this case the feature is prominent enough to convey an idea of the character of the institution. The site is a large one, with an irregular eastern boundary, and will be intersected by a new road connecting Mill Hill-lane with High-street; the author wisely places his buildings on the smaller half, reserving the greater part for playing fields, and thereby ensures several advantages to the class-rooms. The drawings are nicely rendered in pencil, the plans only being coloured.

The author of the second premiated design, Mr. W. Pyewell, contributes alternative schemes —one-storied and two-storied. It is the latter, we presume, which has merited this place in the award, for the one-floor structure is so spread about that the maintenance on roofs alone would be a perpetual trouble. The plan is workable, but the elevations have meaningless details, not calculated to train the youthful mind in the way it should go. Although the drawings are carefully inked in, they are wanting in strength.

The third premiated position is given to Messrs. Giles, Gough, and Trollope for a conception which is open to improvement in the matter of aspects. It will be seen that the high buildings will shield the lower parts from sunlight; the class-rooms facing north, however, are right in aspect. A classic note is struck by the semi-circular open stone porch, whilst there are other points to be commended in the scheme.

The names of the four remaining competitors were not disclosed. Drawings marked No. 1 represent a pleasing design, which has perhaps too domestic an influence, chiefly derived from the windows and parts covered with tile hanging. A defect in the planning, however, is the placing of the cloak-room and lavatories, with a single inconvenient approach, in the basement; this would involve very considerable initial excavation according to the section, a perpetual noisy use of one staircase, and deprive these places of air where an ample easy circulation is imperative.

One side of the central hall is clear of smaller erections. The drawings, including the perspective views, are excellently rendered.

No. 5 is too cramped in cloak-room accommodation; the central hall has galleries on three sides to provide access to class-rooms, dining-room, kitchen, etc., on the first floor, an arrangement which has caused the laboratories to find space on the ground plan, which is the reverse of the more desirable positions. The Head Master, whose room is 9 ft. wide, would have our sympathy.

In many respects No. 6 has a good plan in which the laboratories and dining-room are on the lower level, and class-rooms arranged on two floors; staircases and cloak-rooms are convenient, but the elevations, which have slate roofs, would not inspire a yearning for the pursuit of architecture in the hearts of the students.

Design No. 7 is indeed the last in every way, and fails to justify its inclusion in a limited competition.

ARCHITECTURAL ASSOCIATION DISCUSSION SECTION:

EXHIBITION WORK AT EARL'S COURT.

THE fifth meeting of this section of the Association was held at 56, Great Marlborough-street, W., on December 16, when Mr. A. O. Collard, architect to the "London Exhibitions, Limited," at Earl's Court, read a paper on the above subject.

In introducing the subject Mr. Collard pointed out certain differences between National exhibitions held under the auspices of governments and assisted financially if necessary, and exhibitions such as those promoted regularly each year by a company as at Earl's Court, to whose shareholders a dividend is naturally a matter of great importance. The grounds of this company occupy an area of about 25 acres, held on a long lease. They are separated into three portions connected by footbridges over the District, West London Extension, and Midland Railways. The buildings which stood on these grounds previously to 1895 were cleared away, and new structures of a wholly different character and design were substituted. Interesting details were given of the considerable architectural staff engaged in 1894 in preparing plans for the first year's exhibition in 1895; of the contracts, of the hundreds of men employed direct by the company, under a permanent superintendent of works, and of the English, French, and Belgian men who produced such varied and beautiful plaster work. Reference was made to the necessity of changing the external designs of the various buildings annually, to accord, as far as possible, with the title and characteristics of the exhibitions for the time being, independent of the erection of new buildings by the company or concessionaires. Some of the buildings are permanent structures, and others temporary, requiring licences from the London County Council. Of this latter class the construction ranges from steel and plaster, or steel, wood and plaster, to simple wood and plaster. Mr. Collard exhibited a large number of drawings and photographs as specimens of the work executed during the past nine years, and gave numerous details of construction and cost. The large building known as the Empress Theatre, which is second only to St. Pancras Station in having a roof in one span of 220 ft., especially interested the meeting. Its dressing-room accommodation for 1,000 performers, its staging and tank available for immense spectacular shows on land or water, were dwelt upon, as well as its special construction of steel, brickwork, and concrete slabbing, and its cost, complete, of about 2d. per foot cube. Mention was made, too, of the large extent of open-air scenery, rendered necessary to shut out the sight of ugly surroundings and to insure privacy. Much of this scenery has frequently won high praise from other artists and the public. Finally, the public authorities and their officials who have to administer various laws and regulations affecting public entertainers were genially criticised; and the Theatres and Building Act Committees of the London County Council, who are perhaps the most important from the architect's point of view, were described in appreciative terms for their courtesy and common sense.

Mr. W. Wonnacott, who opened the discussion, referred to the Paris Exhibition buildings of 1900, where there had been much to learn in the way of the economical use of materials. Particularly was this so in the treatment of summer houses and trellises, and in the skylines of domes, finials, etc. The finials were but sawn work, and no two domes seemed to be alike in design. But Mr Collard had shown what could be done in England without Government aid, and in this connexion the details of cost as given to the meeting would be most useful for reference.

Mr. A. H. Belcher thought that the 25 acres of ground covered by the Earl's Court Exhibition entitled it to rank as one of quite respectable size, and he envied the fortunate architect who might be asked to go to Egypt, India, Italy, or elsewhere to get up schemes for prospective exhibitions. There was, besides, the incentive to dive into the literature of the country at home, and Mr. T. C. Gotch's book "Art in Costume" would probably be studied in this connexion. Mr. Collard had shown where the foreign plasterer came in, as against the English. As regards plaster work for temporary buildings, he thought the annexe to the west end of Westminster Abbey at the time of the coronation of King Edward VII. was a particularly good example.

Mr. J. H. Tyars referred to the business-like methods adopted by Mr. Collard in the management of the works at Earl's Court, where the wisdom of insisting upon having contracts for all work done had kept things square where there would otherwise have been hopeless confusion, the contracts at one time numbering thirty-two.

Mr. Banister F. Fletcher, who attended as special Visitor, said he could not lay claim to any special knowledge of exhibition work except so far as his visits to the Paris Exhibition of 1889 and the Chicago Exhibition, 1893, had carried him. At Paris the work struck him as being original in design and free from the trammels of French tradition. The trellis treatment of the ironwork in colours of blue and terra-cotta was particularly notable. At Chicago, on the contrary, where original developments were naturally expected and looked for, the work was, as regards the façades, disappointing, being little more than a translation from the studios of the École des Beaux Arts. At Chicago there had been much to learn in the way of timber construction. Steel construction was used only in the roofs, and not always there. The structural framing of timber in comparatively light scantlings was quite different from and much in advance of English methods. He thought that the public authorities here might well permit a less permanent form of construction in temporary buildings than that which they at present enforced upon exhibition builders. Why should not timber, properly isolated and cased with plaster, be allowed instead of the elaborate steel work which the authorities insisted upon at present? Mr. Fletcher also referred to "staff" as an admirable form of plaster; he had happened to have seen it made, and he described its uses and adaptability for exhibition work. As regards the Empress Theatre at Earl's Court, he had been much interested in the diagrams and description of the building, which he thought almost attained to the level of a Roman amphitheatre in the impression of size, space, and dignity which it gave.

ARCHITECTURAL SOCIETIES.

INSTITUTE OF ARCHITECTS OF IRELAND.

THE Institute of Architects of Ireland held their annual general meeting (the report of which was sent too late for us to find space for it last week) at 20, Lincoln-place, Dublin, on the 17th ult. The President, Mr. G. C. Ashlin, read a short address, chiefly concerned with the question of Registration. He remarked that when they came to consider the adoption of an obligatory examination for their members in the future, they felt that there was little chance of this being generally submitted to unless it was accompanied by State recognition, as in other professions. On this point, as well as on the general question of the urgency of registration, their views were shared by the Ulster Society of Architects, and, therefore, as far as the profession was represented in Ireland, there was practically no difference of opinion. Many of them had read the admirable address delivered on many questions of general interest by the President of the R.I.B.A. at the opening meeting in London this year, in which he dealt with this subject at great length, and avowed himself a non-supporter of registration "for the present," and enumerated all the objections to it from that point of view. They might take this pronouncement as embodying everything that could be said against it. His first argument was that Parliament would never grant compulsory registration as long as there is a considerable body of opinion strongly against it, including its leading members. The force of this objection would mainly depend on the numbers on each side, as our legislators could hardly refuse a measure based on the principle already recognised in the case of other professions, if it was supported by a substantial majority of the practising members. The next objection put forward was that it would be a difficult and serious task to decide who should be admitted and who should be excluded, and further, that a good deal of disability as well

as ability might be registered in the first instance. This was, of course, true, but precisely the same difficulty existed in the case of other professions, and it had been successfully overcome; moreover, any injurious effect would be exceptional, and would disappear after a few years. In the meantime it would be surely of advantage to separate in even a rough and ready manner, in the words of the President of the R.I.B.A. "the sheep from the goats." The next objection was that speculative builders, auctioneers, &c., would still continue to design buildings, and that some of them might qualify themselves under a Government diploma and thus make the condition worse than it is.

Referring to the first point, this could not, of course, be avoided, but the distinction between a qualified and an unqualified practitioner would remain for the guidance of the public and our local representative bodies. With regard to the second point, the necessary training and study to obtain the diploma must result in some benefit to Architecture in the abstract. As to the argument that art should be free and that registration would tend to shackle it, it was hard to understand how this would result. The profession would be open to everybody who qualified himself, and certainly the possession of heaven-born gifts as an artist would not be considered a disability in a candidate. As to saying that painters, sculptors and engineers did not seek Government diplomas and still their professions were more allied to Architecture than law and medicine; with regard to the first two professions there appeared to him no analogy at all (!), their works told for themselves from the start and required no hall-mark, whereas the Architect ought to have many qualifications which were not so easily appreciated. The last argument which he would refer to was that the Institute Examination offers sufficient inducement to make the lazy ones work, and that, therefore, the diploma is not essential for that purpose. He held exactly the contrary opinion, and it was this consideration that convinced him more than anything else of the urgency of the measure. He assumed, of course, that the R.I.B.A. would take the leading part in formulating the education scheme as well as in superintending its development, and that the Government action would be as limited as it was in the case of other protective professions.

The Hon. Secretary then read the annual report, in the course of which reference was made to the proposal of the Architectural Association of Ireland, that for the future an examination should be held by the Institute, in general education and professional efficiency, and that the passing of such examination should be made a condition precedent to election. This proposal introduced a radical change in their constitution, and would require the creation of an examining body with considerable machinery for the exercising of its functions. The Council, feeling how much the profession owed to the excellent efforts of the Architectural Association and the educational advantages it offered, had given this question most careful attention. Such a radical change as this proposal suggested would, however, have to obtain the consent of the Royal Institute of British Architects, with which body they were allied, and it was not at all evident that they would permit them independently to hold such qualifying examinations.

Mr. W. K. Parry, in moving the adoption of the report, spoke of the work done by the Council not only during the past year, but during the previous three years. He referred to the fact that the rules and by-laws of the Institute had been altered and revised and brought up to date. As a result of this change there would be periodical changes in the Council and the officers of the Institute, thus ensuring an infusion of new blood into the work.

Mr. J. Rawson Carroll seconded the motion, which was carried unanimously.

On the motion of Mr. A. E. Murray, seconded by Mr. W. M. Mitchell, the treasurer's report was adopted. It stated that the period from 1900 to 1903, inclusive, had been characterised by steadily increasing activity, and consequent expenditure on the part of the Council. It had also, fortunately, produced an increase in the number of the members, with the result that the total income received during the four years had exceeded the total expenditure.

The President then read the scrutineer's report, and declared the following nine members elected as members of Council for the coming year:—Sir Thomas Drew, W. M. Mitchell, W. Kaye Parry, A. E. Murray, C. A. Owen, J. P. Sheridan, Frederick Batchelor, F. G. Hicks, and J. Rawson Carroll.

ENGINEERING SOCIETIES.

INSTITUTION OF CIVIL ENGINEERS.—At the ordinary meeting on the 22nd ult., Sir William H. White, K.C.B., President, in the chair, the paper read was "On the Resistance of Plane Surfaces in a Uniform Current of Air," by Mr. T. E. Stanton, D.Sc., Assoc.M.Inst.C.E. The paper dealt with the results of experiments made in the Engineering Department of the National Physical Laboratory on the distribution and intensity of the pressure on thin plates and combinations of plates placed in a uniform current of air, and was intended as the first part of a research on the nature and distribution of the pressure of the wind on structures. By a uniform current of air is meant a current in what is known as "eddying motion" as distinguished from stream-line motion, the mean velocity at any point in the direction of flow being uniform across the current. This condition of motion is considered to be the nearest approximation to that of winds of fairly high intensity. The main object of the present research was to determine, if possible, a general relation between the velocity of the current, the dimensions of the plates, and the resultant pressure, as it was felt that experiments in the open air could not be undertaken with any prospect of success until some general relation of the kind had been established. The results of the experiments show that, under the given experimental conditions, a definite relation of the kind existed and may be stated thus: For similar and similarly situated plates or combinations of plates in a uniform current of air, the intensity of pressure is the same for the same velocity of current and general atmospheric conditions. On the assumption that the motion of the wind approximates to that of a uniform current as defined above, the above relation shows that the distribution and intensity of the pressure of the wind on structures may be studied experimentally by means of models of the structures set up in a current of air produced by means of a fan, as in the present case. In illustration of this, the results of experiments made on models of roofs and lattice girders of simple form were given in the paper. Tabulated results were also given for the cases of parallel plates at varying distances apart, plates inclined at varying angles to the direction of the current, and rectangular plates of varying ratio of length to width.

STAINED GLASS AND DECORATION.

WINDOW, RETFORD.—On the 23rd ult. Viscountess Galway unveiled a memorial window in East Retford Parish Church to the members of the Sherwood Rangers Imperial Yeomanry who fell in South Africa. The stained glass window is the work of Messrs. E. Kemp, and the cost is estimated at about 400*l*. It is placed in the south transept, and contains figures, under canopies, on coloured backgrounds. In the upper tier are St. Michael, St. Alleyn, St. Oswald, St. Hugh, St. Charlemagne, and in the lower tier St. George, Edward the Confessor, St. Cuthbert, St. Martinus, and St. Edmund. In the tracery openings are the arms of the borough and the regimental arms, and on a shield below the window is the inscription.

OBITUARY.

MR. PAIN.—We have to announce the death on December 19, at No. 40, Baron's Court-road, Kensington, in his sixty-seventh year, of Mr. William Pain, of the firm of Messrs. Lee and Pain, of No. 63, Lincoln's-inn-fields, W.C., architects and surveyors. Mr. Pain was elected an Associate of the Royal Institute of British Architects in 1869 and a Fellow in 1875; he was a member of the Architectural Association and a Fellow of the Surveyors' Institution. Mr. Pain was formerly in practice as a member of the firm of Messrs. Lee Brothers and Pain, of No. 63, Lincoln's-inn-fields, from which Mr. Charles Williams Lee retired some five or six years before his death on July 28, 1901. Mr. Pain served as member of the Council of the Royal Architectural Museum and Westminster School of Art, in Tufton-street, S.W.; in June, 1901, he was re-elected auditor, and played a leading part in the recent negotiations for the transfer of the museum buildings and the art collection to the Architectural Association. In conjunction with his partners he was largely employed as a rating surveyor, and in dealing with controversial cases arising out of compensation claims, rights to light and air, and similar matters. He and his firm have been concerned in the development and laying out of several landed properties in the suburbs of London, including estates at Clapham, Holloway, Isleworth, and Putney. Their architectural work comprises many country houses, the building of Her Majesty's Opera House, various improvements at the Haymarket Theatre, St. John's Church, Putney, St. Stephen's Church, Wandsworth, and the Lodge of St. Katharine's Hospital in Regent's Park, several school buildings, etc.

DIARIES.

MESSRS. HUDSON & KEARNS, Southwark-street, S.E., have sent us several of their well-known diaries for 1904. As in previous years, the "Architect's Diary" is issued in two sizes (Nos. 12 and 13), the larger one having two pages to a day, while the smaller has one. In other respects these two are the same; each has an index, and most of that general information which is useful to architects. The information includes a list of cases decided in the superior courts of justice during the legal year from November, 1902, to August, 1903, of interest to the profession, professional practice and charges of architects, a list of metropolitan Surveyors and Districts, with official and private addresses, &c. The "Builder's Diary" (No. 11) gives two days to a page, but the work contains some useful tables, &c., for builders. The "Diary and Note-book" (No. 9) is another form, similar to No. 11, but without the tables and some other special information. All these diaries are admirably printed and arranged and leave little or nothing to be desired.

BOOKS RECEIVED.

PROCEEDINGS OF THE INCORPORATED ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS. Edited by Thomas Cole, A.M.Inst.C.E. Vol. XXIX. 1902-1903. (E. and F. N. Spon.)

A POCKET DICTIONARY OF HYGIENE. By C. T. Kingzett, F.I.C., and D. Homfray, B.Sc. Second Edition. (Baillière, Tindall, and Cox. 2s. 6d.)

COLD GREENHOUSES AND FRAMES (Rural Handbooks Series). By D. S. Fish. Dawbarn and Ward. 6d.)

Correspondence.

DURBAN TOWN HALL COMPETITION.

SIR,—Will you allow me space to state how this important competition is being conducted?

When the conditions were issued, it was stated that, if any competitor in any way canvassed any member of the Council, it would disqualify the architect at once.

A Johannesburg competitor asked the late assessor (who selected the six designs for a second competition) how he had arrived at his decision, and what points were considered in selecting the six designs; the assessor stated that he and a councillor inspected the plans, the councillor selected eight designs, and he selected six out of the eight. (Note: the councillor referred to is not in the architectural profession.)

Upon making inquiries myself of officials at the Durban Town Hall when the competition was likely to be decided, I was told the Council were judging the plans themselves, and that the two Durban architects' plans were in; that the designs from England had not yet arrived, but that one of the Durban architects had taken photographs of his design, and that he would no doubt let me have a sight of these, as he (the official) had seen them, amongst other people.

A local paper stated some little time ago that their representative had seen the designs; the paper gave a rough estimate of the cost, and stated that the design he approved of was a very ne one.

FAIRPLAY.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN COMPETITION.

SIR,—So many competitors have written to me on the subject of Mr. Hine's award (and not one in its favour), that I should be glad of the publicity afforded by your columns to ask those competitors who have not written to send me their names and addresses, that I may communicate with them.

HORACE R. APPELBEE.

The Student's Column.

ARCHES.—I.

INTRODUCTION.

NO tradition has been handed down to tell us, even in general terms, when and how the principle of the arch first occurred to the human intelligence. Natural and artificial caves have been used in all ages by mankind as dwellings and places of refuge and burial. It is quite conceivable, therefore, that man, who has always been a thinking animal, may have reasoned out an embryonic theory of the arch when reclining at his ease and gazing dreamily at the ceiling of some vaulted chamber fashioned by the forces of Nature.

It is true that in evidences remaining of the earliest burrowings below the surface of the earth there is not much suggestion of the arch, for the idea generally appears to have been to support the superincumbent material by flat stones acting as beams. Examples of such construction are to be found in the Pictish dwellings of Orkney, of which Fig. 1 is a typical representation. Stone beams used in this manner would have a most natural tendency to break across, and it is not unreasonable to suppose that the notion of fixing two stones, as in Fig. 2, was suggested as a simple means of avoiding transverse rupture. This first dream of an arch may have been supplemented by others in which more than two stones were incorporated, as in Fig. 3, and so a more complete type of structure may have been evolved in progress of time, and when men came to build their dwellings on the surface of the earth.

Above the entrance to the Great Pyramid of Ghizeh we have an example, probably dating from 2500-2200 B.C., of an approach towards the arch, and a similar type of construction is to be found in the ceiling of the Third Pyramid.

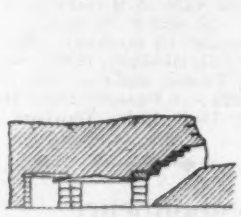


Fig. 1.

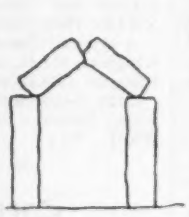


Fig. 2

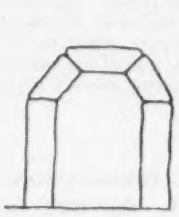


Fig. 3.

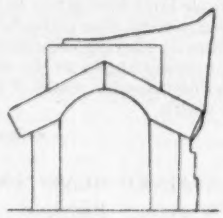


Fig. 4.

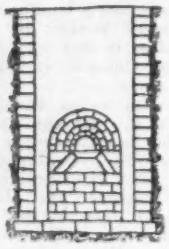


Fig. 5.

Fig. 6.

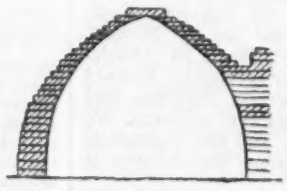


Fig. 7.

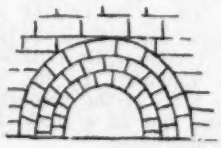


Fig. 8.

The latter is shown in Fig. 4, and it will be seen that the stones are placed practically as indicated by Fig. 2. Further development of the principle is evidenced by arched chambers in the brick-built pyramids at Thebes, which are generally believed to date from about 1200 B.C.

Perhaps the most interesting arched structure among Egyptian antiquities is to be found in "Campbell's Tomb," as it is called, at Ghizeh. This relic consists of an open excavation, in the middle of which are the remains of a masonry tomb. Fig. 5 is a section of the pit with the tomb in elevation. Unhappily, the Egyptian Government, in its unregenerate days, destroyed the upper arch to secure material for the construction of a mill. The tomb is covered first by three stones, which illustrate the second step towards arch construction, as in Fig. 3, and over these strutted stones was formerly a circular masonry arch of fully developed design. From some indications left of a springing, the excavation is believed to have been enclosed by another arch. The excavation measures 30 ft. by 26 ft. 3 in. on plan, and if the supposition is correct this would be the most important stone arch of which any suggestion remains. In addition to the springing stone, there are other reasons for believing the excavation was arched over, and, besides, it is not easy to see in what other way it could have been covered.

Attempts towards the realisation of an arched structure have been made in all parts of the world, by laying masonry in horizontal courses converging to a central point. Examples of such construction are to be found in the ancient monuments of Central America, and the method pursued will be made clear by Fig. 6. This typifies what may be termed an "apparent" arch, and the principles involved are those of the cantilever and the strut. Each stone is held in position by the superimposed weight of the wall above, and the inner facing walls, also held together by vertical pressure, afford a certain amount of mutual support to each other through the central stone.

Other structures of somewhat similar character are to be found in Europe, the most important being the Treasury of Atreus at Mycenæ, of which a section is given in Fig. 7. The building consists of projecting courses of masonry laid horizontally and corbelled so as to give the appearance of a parabolic arch, the lower projecting angles of the stones having been cut off to preserve the lines of the required profile. This work presents clear evidence that its architect had some knowledge of the arch principle, for excavations have shown that the upper rings of masonry were fashioned suitably for the resistance of external pressure. The stones in these are shaped so that the joints are, to some extent, radial, and this arrangement is increased by stone wedges driven into the joints from the outside. The design followed seems to indicate that the principle of the vertical arch was not understood in Greece at the time when the Treasury of Atreus was built. Even at a much later period very little use was made of the arch by the Greeks, and the theory has been generally held that this nation was not acquainted with its principles. This supposition seems somewhat improbable, as the arch was almost certainly employed by other nations with whose architectural works the Greeks were undoubtedly familiar.

We must give credit to the Romans as the first nation of the world to demonstrate the suitability of the arch for spanning openings of considerable width and its great utility in other directions. By its aid the Romans succeeded in doing what their predecessors had never been able to effect. They provided means of communicating between the banks of wide and swiftly-running rivers, carried aqueducts across deep valleys, built sewers, and in other ways made extensive use of a principle that has proved to be of immense service to mankind.

The great sewer, known as the Cloaca Maxima is the earliest Roman arch of which we have any authentic knowledge. This work is generally attributed to the first Tarquinius, who died 578 B.C., but some doubt has been expressed whether the sewer as it now exists is not of more recent date. Fig. 8 is an elevation of the Cloaca Maxima, the arch of which is seen to consist of three concentric rings of masonry.

Numerous stone bridges were built by the Romans, and the remains of some still exist as proofs of the excellent work and ingenuity of the builders. Of these arched structures some are worthy of special notice, and apart from the circular form of the arch, and the equal depth of the stones in the arch ring, they are very like bridges of modern design.

The Pons Milvius, built near Rome about 100 B.C., had arches of 51 ft. to 79 ft. 9 in. span, and a width of 28 ft. 9 in. In the Pons Ælius, built by Hadrian, over the Tiber, the main arch had a span of more than 62 ft., and the width of the bridge is stated at 50 ft. 9 in.

One of the most remarkable works of the kind was the bridge built across the Danube in the reign of Trajan (104 A.D.) by Apollodorus of Damascus. The historian, Dion Cassius, states that this bridge consisted of twenty semi-circular arches supported on masonry piers. The exact dimensions are not perfectly clear, but, according to the account given by Rondelet in "L'Art de Batir," the piers were about 160 ft. high and 64 ft. thick, and the arches were of 181 ft. span. From a bas-relief on the Trajan column at Rome it appears that the arches were of timber. The depth and rapidity of the river must have added considerably to the difficulties attending the execution of this great engineering work, the total length of which was not less than 3,000 ft., and may have been considerably more.

One other noteworthy bridge built in the time of Trajan was that over the Tagus at Alcantara. The total length of this structure is 650 ft., and the bridge comprises six semi-circular arches, two of them having spans of 100 ft. The roadway is level throughout and crosses the river at an elevation of 140 ft. This bridge still exists as a testimony to the wonderful genius of the Roman race, and as a reproach to ephemeral builders of the present day.

The introduction of the arch by the Romans was the beginning of a complete change in the architectural forms imported from Greece. By slow degrees the predominance of horizontal lines became less marked, and finally the bold simplicity of the Romanesque style budded forth into the foliation of the Gothic style. In the articles which are to follow we shall consider the arch from an engineering standpoint, and for this reason it is unnecessary to enter upon details relative to variations of form that are purely architectural in character. Some such forms doubtless exhibit convolutions and other features that are superfluous, or even detrimental if examined by the cold light of science, but they all find appropriate place in artistic building construction. In engineering works, and in buildings too, where strict conformity with mechanical principles is a first essential, the simpler forms of arch are always preferred, as giving the most satisfactory results at the least possible cost for any given class of material. Therefore we shall not attempt to trace the general history of the arch through the Middle Ages, but will confine attention to its development in connection with bridge building from the days of ancient Rome to the present epoch.

After the disruption of the Roman Empire very little advance was made in bridge building for some centuries. An arch of considerable boldness was thrown over the Serchio at Lucca, about 1000 A.D., the span being 120 ft., and the roadway, standing at an elevation of more than 60 ft. above the stream, was only 9 ft. wide Although so slenderly proportioned this arch was of such admirable workmanship and the mortar was of so excellent a quality that on one occasion the arch proved itself capable of withstanding a flood that rose nearly 30 ft. above the springing.

Towards the end of the twelfth century some religious confraternities were formed, the members of which were known as "Frates Pontis," and numerous bridges were built by them during the succeeding centuries, both on the Continent and in this country.

One famous bridge they erected was built in 1178-1188 A.D., over the Rhone at Avignon. Four arches of this work still remain, and are noteworthy for the elliptical form of the arch. Old London bridge, commenced in 1176,

appears to have been one of the first works of the "Frates Pontis" in England.

An interesting structure attributed to a religious community is the "triangular bridge" at Croyland. This still stands at the confluence of the rivers Welland and Nene, and the Catwater drain, and is an example of the skill attained in arch construction by the monks of the fourteenth century. The bridge consists of three pointed arches with abutments at the angles of an equilateral triangle, and meeting in the middle so as to give three waterways and three roadways.

Striking proof of the boldness displayed by mediæval builders is furnished by records of the bridge formerly spanning the Adda at Trezzo. This fine work was constructed at the instance of Bernabò, Duke of Milan, during the latter part of the fourteenth century. It consisted of a single arch of granite in two courses, the innermost 3 ft. 3 in. thick in the direction of the radius, the outermost 9 in. thick. The arch had a clear span of 251 ft. at low water, and a rise of 88 ft.

At the present time the greatest span of any masonry arch is only 220 ft., a fact which adds to our regret that the Trezzo bridge was destroyed by Carmagnola when, as general of the Venetian army, he was waging war against his old master the Duke of Milan.

A few years later the brick bridge over the Ticino at Pavia was erected under Gian, Duke of Milan, to whom also we owe the brick-built Cathedral of Milan. The bridge at Pavia, which is still in existence, has seven pointed arches, each 70 ft. span and 64 ft. in height, the depth of the arch-ring at the crown being 5 ft. 6 in. The bricks in this case were made of different sizes to suit their positions in the bridge, and were hollowed in the middle for the purpose of reducing weight.

In 1454, the old bridge of Brioude was built over the Allier, in France. According to Rennie the span was 183.73 ft., and the arch was of segmental form with a height of 60 ft., while the bridge was only 16 ft. wide. This structure collapsed in 1822 after having existed for 368 years.

A very fine bridge, the "Ponte della Trinita," erected at Florence in 1566, from the designs of the celebrated architect, Bartolomeo Ammanti, is interesting as showing an approach towards the elliptical arch. The centre arch has a clear span of 96 ft., and the two outer arches are 83 ft. and 86 ft. span respectively.

Turning to our own country we do not find many notable examples of mediæval arch. There is a very fine fourteenth century stone bridge at Warkworth, Northumberland, and another noteworthy structure is Berwick bridge, completed in 1634, the largest arch of which has a clear span of 74 ft. 6 in. Both of these are in excellent preservation, and the last-named still forms the only highway communication between Berwick and Tweedmouth.

Whether any theoretical knowledge of the principles of the arch was possessed by ancient architects we cannot tell, but it is quite certain that they were most successful in the design of arched structures that have lived to put to shame many modern works. Roman architecture of the kind was characterised by great boldness and constructive skill, and we may reasonably conclude that the Romans possessed fully as much knowledge of the true principles of the arch as was evidenced up to the end of the seventeenth century. The materials of construction were the same, and if we disregard purely architectural developments of the arch, it must be conceded that very little advance was made from the time of the Romans to the end of the period mentioned.

PROFESSIONAL AND BUSINESS.—Messrs. A. J. Arrowsmith and Co. have removed from 80, New Bond-street (which has been the address of the firm for 123 years) to 22, Mount-street, Berkeley-square, W.—Mr. John Cash, architect, has removed his office from 28, Newman-street, to 22, Surrey-street, Strand, W.C.—Mr. George O. Scorer, architect, has removed his office from 28, Newman-street, to 22, Surrey-street, Strand, W.C.

EXAMINATIONS IN SANITARY SCIENCE.—Mr. T. J. Moss-Flower, A.M.Inst.C.E., who has long conducted classes for instruction in sanitary science, sends us a useful pamphlet under the above heading, giving the syllabus of subjects for examination adopted by the Sanitary Institute, the Surveyors' Institution, and other similar bodies, together with a prospectus of his own very extensive course by tuition in practical and sanitary subjects.

GENERAL BUILDING NEWS.

RESTORATION OF ROGIET CHURCH, MONMOUTHSHIRE.—The reopening of Rogiet Parish Church after restoration and enlargement took place recently. The old plastered roof has been removed in its entirety. A gallery which blocked the west arch window has been taken down, and the arch opened out and the tower floor provided with seats. The tower itself has been reroofed and repointed, and the pinnacles, only one of which remains—and that in a mutilated condition—have been restored; the lateral octagonal tower over the belfry stairs has been recapped, and the chancel has been strengthened by a new buttress on the south side. The new north aisle forms one of the important items of the enlargement. Its pillars have carved emblems on the capitals, and the arcading is carried out in symmetrical proportions with the rest of the edifice. The new vestry on the north side is entered from the north aisle, and a new carved oak pulpit, on stone base, has been provided, the central panel of which contains a figure of the Virgin Mary, to whom the church is dedicated. The church is small (its seating capacity being under 100), but there are several very interesting features in and about it. There is the arched entrance to the old rood loft; a number of old mural paintings over the chancel arch, fragments of which are a lion's leg and paw, and a unicorn's leg and foot, and these have been left within a bevelled square; a small square niche, probably a tabernacle, which has now been fitted with an oak door with ornamental iron hinges; the old font, of very early Norman; the original stone altar slab, found buried in the nave, with the consecration crosses still visible, which has been restored to its former position and now rests on a strong oak table support; and the old confessional window, used under special licence by travelling friars in pre-Reformation days. These windows were built up at the time of the Reformation, but this one has now been restored. The fittings include an altar cloth and frontal, worked by Messrs. Ponting, of Kensington, brass altar cross and altar desk, a 6-cwt. bell, which has been rehung by Messrs. Carr, of Birmingham. The wall on the north side, almost touching the church, has been taken down and replaced by iron ornamental railings, with a private entrance to the vestry, surmounted by iron arch and lamp. The architects were Messrs. Seddon and Carter, and the work has been carried out by Mr. W. Clarke, Llandaff, Mr. Richards being the foreman of the works.—*Western Mail.*

BUILDING IN MANCHESTER.—Whilst the building trade has not displayed any extraordinary vitality during the past year, the larger firms have found things moderately brisk. Compared with the previous year, however, the condition of trade has been nothing like so good. A few large buildings in the city have been completed within the past few months, notably the Midland Hotel and Parr's Bank, and the firms engaged thereon have been moderately busy. If the present growth of new buildings continues there will not be much room for complaint. In the suburbs there has been a large increase in cottage property, whilst within two or three miles of the centre of the town much land has been covered with houses of a low rental. In the districts of Rusholme, Fallowfield, and Longsight houses have been increased by the hundred. In some respects this is not an unmixed blessing, for in many cases old mansions have been demolished, and the grounds surrounding them, which were looked upon as breathing spaces for a somewhat congested city, have disappeared. This is particularly noticeable in the Rusholme district, where small blocks of property have been erected. At Fallowfield, on the Firs Estate, and on the Mabfield Estate, small houses, to let at rentals ranging from 9s. to 12s., have been extensively built—and, whilst such houses are not altogether satisfactory, they are far above the average in matters of design and general convenience, although the rooms are in many cases smaller than the Corporation are warranted in allowing. At Longsight, on the Crowcroft Estate, hundreds of houses have been erected or are in course of erection. A matter of a mile or so from town matters little now that the electric cars cover the distance in such a short time. Higher Broughton, too, has not been free from the builders' visitation. land which within a comparatively recent period was vacant being now covered with bricks and mortar. Labour has been plentiful and cheap, but the practice of erecting houses for speculating purposes is one that cannot be commended. There is one practice in the building trade, extensively followed, which should not be tolerated. We refer to the purchase by wholesale erectors of old building materials and their incorporation in the fabric of newer premises.—*Manchester Courier.*

ST. JOHN'S PARISH HALL, KINGSTON.—The Bishop of Southwark dedicated recently the new parish hall in the parish of St. John's, erected at a cost of 1,300*l.* in Grove-road. This room is the first and principal part of the whole scheme, and there still remain an anteroom, &c., to be erected. The hall is about 100 yards away from the church and vicarage. It has been built from the designs of Mr. A. J. Style (Thames Ditton). The contractors were Messrs. Johnson and Co., Ltd., of Wandsworth. The hall has been constructed of red and yellow bricks. The new hall is 57 ft. long and 26 ft. wide, and is capable of accommodating some 300 people. At one end there is a recess 10 ft. deep, in which a stage has been erected.

DUNDEE BUILDING TRADE IN 1903.—When commenting on the state of the building trade for the year 1902, it was indicated that the outlook for 1903 was far from promising. That forecast has, unfortunately, been entirely verified. It is easy to exaggerate depressions of trade, but the facts at present point to a serious state of matters. The unanimous verdict of those immediately interested in the trade is that it has never been so bad for many years. The slackness of the general trade of the city naturally prevented the Corporation launching into new schemes of improvement. Work on hand was, of course, carried on, and much of it completed during the past twelve months; the streets were renewed where necessary, but little work of any magnitude was started. Private work has also been scarce, while public bodies have had to husband their resources as far as possible owing to the lack of money in the city.—*Dundee Advertiser.*

BUILDING TRADE IN LEEDS.—A year ago the building trade was suffering from acute depression, the preceding year being described as one of the worst in the history of the trade, and it was recognised at that time that a continuance of that deplorable state of affairs must be looked for. At the end of another year there is a similar tale to unfold—with this difference, that conditions now are, if anything, even worse than was the case twelve months ago. And, what is more, the future does not hold out any hopeful prospects of an improvement. One would naturally have thought that after a protracted period of depression, such as has been experienced of recent years, trade would have begun to revive. And in the ordinary course of events this would have been so. But the present unrest in the political and commercial worlds has tended to prolong bad trade, and especially in the case of speculative building the outlook is very black indeed. Builders, in view of this disquietude, are strongly disinclined to speculate to any great extent, and it is felt that until the great questions now before the nation are finally settled there can be but little hope of the building trade recovering to any appreciable extent from the present stagnation. Many men are out of employment in all branches of the trade, and whereas a year ago large numbers of workmen left the district for London and other parts of the kingdom, the slackness of trade this year is so general that little, if any, advantage can be reaped by leaving Leeds for any part of the country. In fact, great as the depression is in Leeds, it is very doubtful if the state of trade in other places is so good as it is in this neighbourhood. Of course, apart from the political question, there are minor reasons for the present depression in the building trade locally. Perhaps the chief of these is to be found in the fact that in recent years building has been going on too rapidly—especially speculative building in the suburbs.—*Yorkshire Observer.*

PUBLIC HALLS, GLASGOW.—On the 24th ult. Langside Public Halls, Glasgow, were opened. It has been sought to reproduce in design, so far as possible, the old National Bank buildings in Queen-street, and the materials of the old bank have been utilised in the erection. The Queen-street building was designed by the late Mr John Gibson. It was Italian in style, having a front divided into five bays, with double orders—Ionic below and Corinthian above—the centre bay slightly projecting, and having coupled columns right and left. In the reconstructed building the interior is divided into a large hall, with gallery, affording accommodation for 800; a lesser hall, with gallery, accommodating 320; an outer hall, accommodating 100; reception room, accommodating 60, and smaller rooms. The contractors for the reconstruction were Messrs. P. and W. Anderson.—*Scotsman.*

BUILDING TRADE IN EDINBURGH.—During the past year there has been a considerable increase in the value of the work passed through the Dean of Guild Court as compared with the previous year, notwithstanding that the building industry has not shown much increased activity. The reason is in a great measure due to the fact that several of the large public buildings recently passed, involving large monetary value, have not got sufficiently under way to create any noticeable stir. Since the

completion of the large fever hospital at Colinton Mains, which was opened by the King in the summer, a number of men have been thrown on the list of the unemployed. In the early spring it is expected that a marked change will take place for the better, and that both skilled artisans and the labouring classes will find work to do. The number of warrants granted during the year reached a total of 785, and embraced 96 tenements, 52 villas, 97 self-contained houses, 115 public and other buildings, and 580 alterations. In the above tenements there were 25 shops, 48 houses of one apartment, 207 of two apartments, 396 of three apartments, 189 of four apartments, 54 of five apartments, 2 of six apartments, and one of seven apartments, representing a total number of 897 tenement houses, the whole work representing an approximate value of 825,584*l.*

GORDON BOYS' HOME, NOTTINGHAM.—This building is being erected in Cranmer-street, Nottingham. Four stories in height, the building is approached by a main entrance, attained by an ascent of ten steps from the street level. This gives direct communication with the committee-room, waiting-room, office, and sitting-room, which are also approached from the basement by two main staircases. In the basement is a recreation-room measuring nearly 36 ft. by 32 ft., and immediately above this is located the dining-hall, which has a measurement of 40 ft. by 20 ft. At the rear of the building an iron staircase has been constructed. Mr. E. R. Sutton is the architect, and the contractor Mr. F. Messom.

BUILDING IN SHEFFIELD.—Notwithstanding the general decline in trade throughout the year, house building has been as brisk as during 1902. During the twelve months ended December 31, 1902, the houses built and certified for habitation numbered 1,977, and up to December 23, 1903, the number had reached 1,934, so that when the full year's returns are completed there will be little, if any, difference between the two years. The public buildings which have been completed or commenced during 1903 include the new University College Buildings, in Western Bank; extensive additions to the Technical School; St. Silas' Mission Room, Hanover-street; Birch Hall, Trippett-lane; additions to the Children's Hospital, Western Bank; Roman Catholic Presbytery, Norfolk-street; York City and County Bank, High-street; National Provincial Bank, Fargate; Sheffield Education Committee's School of Cookery, Townhead-street; branch bank for the Sheffield Banking Company, at the corner of Infirmary-road and St. Philip's-road; extensive additions to the Sheffield Club, in Norfolk-street, all in the Central District; Congregational Chapel in Owler Greave-road; Mission Room for Friends' Adult School, in Leeds-road; new Wesleyan Reform Chapel, in Woodburn-road; Council School, in Tinsley Park-road; and two lots of Children's Homes, in City-road, in the Eastern District; All Saints' Mission Room, at the corner of Cossey-street and Forncett-street; Administrative Block, boiler-house, and laundry, at Fir Vale Workhouse, in the North-Eastern District; Vestry Offices, in Meersbrook Bank-road, in the Southern District; Wesleyan Reform Chapel, Sharrow Vale-road; Wesleyan Church and Schools, at the corner of Eccleshall and Neill-roads; Council Schools, in Greystones-road; Hollis' Almshouses, at Whirlow Bridge; Infirm Block, in Lyndhurst-road, for Eccleshall Union; and Mortuary, in Osborne-road, and Relieving Officer's quarters in Union-road, for the same authority, in the South-Western District; Council Schools, in Fulwood-road, near Nether Green; Cottage Homes, in Bole Hill-lane, for the Eccleshall Union; Council Schools, in Western-road, in the Western District; and Council Schools, at the junction of Meredith-road and Dykes-lane, at Hillsborough; additions to Parkside-road Council Schools, at Hillsborough; a new Roman Catholic School, in Ripley-street; a branch bank, at the corner of Infirmary-road and Albert-terrace-road, for the Sheffield and Hallamshire Company; and a power station for the Corporation Electric Light Department, in Club Mill-lane, in the North-Western District.—*Sheffield Telegraph.*

ELECTRIC LIGHT, LEICESTER.—On the 22nd ult. a Local Government Board inquiry was held at the Town Hall, Leicester, into an application of the Town Council to borrow 100,000*l.* for electric lighting purposes and 22,108*l.* for the building of a new elementary school. Some figures were given showing the growth of the electric light undertaking, in which a total sum of 173,982*l.* was already invested. The demand for current steadily increased, and in order to keep pace with that demand the Corporation had had to spend another 30,777*l.*, which sum was included in the present application. The engineer (Mr. Colson) stated that the increased demand for current had been phenomenal. It was not proposed to light the public streets with electricity. The application was not opposed.

MISCELLANEOUS.

INTERNATIONAL SOCIETY OF SCULPTORS, PAINTERS, AND GRAVERS.—We have received the following communication from the secretary of this Society: "Fears have been expressed that by abolishing the private view the International Society of Sculptors, Painters, and Gravers may drive collectors and amateurs from the New Gallery on the opening of their exhibition in January. So far, however, is this from the intention of the council of the Society, that they have arranged for a number of ladies and gentlemen, interested in the Society and its work to visit the gallery on Saturday, January 9, Varnishing Day, and they have therefore inaugurated, or rather revived, the Varnishing Day of the past, at which artists and patrons met in the galleries."

HOUSING, KINGSTOWN, DUBLIN.—Mr. P. C. Cowan, L.G.B. Inspector, held an inquiry on the 21st. ult., on behalf of the Local Government Board, arising out of an application on the part of the Kingstown Urban District Council for sanction to a loan of 64,708*l.* for the purpose of carrying out schemes under parts I. and III. of the Housing of the Working Classes Act, 1890. Mr. J. Berry, Township Surveyor, and others having given evidence, the Inspector said they would have to get fresh plans and specifications for every part of the work, and submit the quantities, estimates, and tenders for all contracts. Only on those conditions would he recommend his Board to sanction the loan.

MANCHESTER ART GALLERY EXTENSION.—There was a meeting of the Art Gallery Committee in Manchester Town Hall on the 21st ult., when the proposal of the Special Committee on the desirableness of extending the Art Gallery on its site in Mosley-street was considered. A few days ago the Special Committee came to the conclusion that it would be better to proceed with plans for enlarging the Gallery on the existing site rather than wait in the hope that suitable provision would be afforded for art gallery purposes on the land in Piccadilly when the Royal Infirmary buildings have been removed. The Committee a long time ago secured some land behind the gallery in Mosley-street, but refrained from making use of it, in deference to the general wish of their colleagues in the City Council, while the negotiations for the purchase of the Infirmary site were in progress. It was then suggested that an art gallery and a free reference library, in every way worthy of the city, might be built where the Infirmary now stands. The Art Gallery Committee are not unmindful of the advantages that would come to them and to the citizens generally by the realisation of such a plan, but they feel that it is time some definite arrangement was made, and that they should know when they may expect to be in the proposed new home and what space they will have there. Doubtless in the course of the next few weeks they will receive some enlightenment on the subject—probably at the January or February meeting of the Council. The Committee decided to defer discussion of the proposals to another meeting.—*Manchester Guardian.*

BUILDING MATERIALS FOR EGYPT.—The Council of the British Chamber of Commerce in Egypt, in their latest printed report, make the following observations respecting the opening for building materials: "Taking into consideration the enormous amount of building construction at present being undertaken in Egypt, not only by private persons, but for Government purposes, our attention has been drawn to the small part played by British manufacturers in supplying the materials employed, and to the direction in which this state of things may be amended. At the root of the defect appear to be the characteristic unwillingness of the British makers to enter the market and to cater for the needs of the country, the absence of direct representation, and the high price of British goods. It cannot be too often nor too strongly impressed on the manufacturer that the preponderant demand in Egypt is for cheap articles. They may be inferior, but they must be cheap. To take steel joists as an example, Belgium and Germany enjoy the practical monopoly of the trade, and can undersell Great Britain by as much as 2*l.* to 3*l.* a ton. The former countries supply an article which suffices for all practical purposes and passes all the necessary tests, and yet is inferior in quality to English steel; it will not stand rolling into small sections and thin plates, which are consequently supplied by England. There appears to be no reason why our country should not be able to take a share in the trade by manufacturing a lower grade, but serviceable, quality. In lead and iron piping, in sanitary goods, in paints and oils, in ironmongery for doors and windows, it is the same story—Great Britain will not condescend to cheapness. For a given diameter the foreign maker will offer lead piping that is thinner in section, and, consequently, lower in price, than the English one, and yet will satisfy the tests prescribed. The well-known patterns of Doulton, Jennings, and Shanks in sanitary appliances are universally imitated in lower qualities. Paints and oils of English manufacture are better represented than they used to be, but their high price still rules them out of the market for building purposes. Lifts are supplied almost entirely from Italy, English manufactures in this department being absolutely unknown. In fact, the only line in which Great Britain is adequately represented is that of building machinery and implements. It is a feature in Government work for bridges, etc., put up for tender, that the contractor is invited to submit his own plans. This is, no doubt, an economy for the Government, but it directly encourages the drawing of plans adapted to the inferior material. Such, however, being the conditions, it behoves the British manufacturer to fall in with them if he is to enter the field with his competitors on anything like equal terms."

KING'S COLLEGE HOSPITAL.—The President and Governors will apply for powers in the course of next session to dispose of the hospital buildings and site in the vicinity of Clare-market; a joint committee of the hospital and college authorities make an appeal for a sum of 300,000*l.* to enable them to build and equip a new hospital and chapel upon a site of 12½ acres, known as "The Sanders Estate," at the foot of Denmark-hill, close to Camberwell-green. The hospital was first established in the old workhouse of St. Clement Danes in 1839, in association with the medical school of King's College. The present buildings, which accommodate 220 beds, were begun, in pursuance of an Act of 1851, in June, 1852, from Thomas Bellamy's plans and designs. They stand upon a cleared area of about 1 acre, and, with the fore-court, occupy the sites of St. Clement Danes workhouse and the parish burial ground, commonly called The Green or Upper Ground. The hospital gates (west) mark the site of the Watch House, next to which stood, until their demolition in 1885-6, two quaint old gabled houses and a bulk-shop (the last of its kind in that quarter of the town), near the entrance into Gilbert-passage, Clare-market. Plans of the building are illustrated in M. Armand Husson's "Étude sur les Hôpitaux," a large quarto volume published in Paris in 1862.

WOODEN WATER PIPES.—It is reported from Mexico that application has been made, under the Law of December 14, 1898, for permission to establish in the Republic, as a new industry, the manufacture of wooden tubing for bringing water in large quantities and from a distance in cases where the cost of conveying the water in any other form would constitute an obstacle to the erection of hydraulic works.

DUNDEE INSTITUTE OF ARCHITECTURE.—In reference to a recent advertisement in the local papers, inviting architects to tender for the erection of various public-houses in Dundee, the Institute, at a special meeting, held on the 18th ult., passed the following resolution, which has been sent to all its members:—"This meeting of architects considers that it is inconsistent with the dignity of the profession to tender for the work as advertised by the Dundee Wine, Spirit, and Beer Trade Protection Association, and recommends that architects should refrain from tendering."

PATENTS OF THE WEEK.

APPLICATIONS PUBLISHED.*

27,833 of 1902.—F. T. SANDERS: *Spring Hinges and Hasps.*

Hinges and hasps comprising in combination an enlargement at one end of the boring of the hinge rolls, a hole through the wall of the inner roll, and a hole at the lower end of said enlargement of the boring, a nick in each of the hinge plates extending from said holes in the hinge rolls, a coil spring around the hinge rivet and straight ends of said coil spring passing through the holes in the hinge roll into the nicks in the hinge plates.

28,391 of 1902.—G. B. BOWELL: *Automatic Fire Alarm Systems.*

In a thermostatic fire alarm system, in which several installations are connected by a single circuit to a central station, and each installation is protected by open-circuit thermostats, the arrangement of the circuits whereby each installation is a shunt to a portion of the main circuit, and whereby, on severing of the installation circuit, distinctive signals are given at the central station, the system remaining operative until the fire alarm is given.

23 of 1903.—A. SUMMERS and M. SUMMERS: *Ventilators.*

A ventilator, consisting of brackets, having the ledges and inturned edge, forming a receptacle for the plates, said brackets being swivelled to

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

a frame and possessing, at one side of the ventilator, arms coupled to the plate, by which they may be turned on their pivots, said brackets being formed and arranged to rest against one another when the ventilator is closed.

438 of 1903.—O. STEUER: *Alarm Apparatus for Detecting Unauthorised Attempts to Open Doors, Windows, Boxes, Safes, Locks, and the like.*
A device for detecting unauthorised attempts to open doors, windows, boxes, safes, locks, and the like, said device comprising two electric circuit closing springs disposed on an insulating block or carrier, adapted to be secured reversibly to the door lock, window, or other object, said springs being adapted to be electrically connected with an alarm of any suitable kind, in combination with a movable pin or stem, carrying a presser plate or member, and adapted to produce contact of the springs when operated, the arrangement being such that when the said pin or stem is pushed it produces a temporary or a continuous contact of the springs, and closes the circuit temporarily or continuously through the alarm, according to the position of the springs.

1935 of 1903.—A. TAYLOR and N. BROCKE: *Brick Moulding Machines.*
A brick moulding machine, consisting of a steam or the like cylinder, actuating a piston or plunger, and a further cylinder, mounted on a suitable framework, said cylinder having outlets, midfeather, and reducing nozzles, to which are attached smoothing or finishing nozzles or moulds.

1947 of 1903.—R. RAVELLI: *Means for Uniting Parts of Articles of Furniture and the like.*
In means for uniting parts of articles of furniture, in combination, a bolt, a nut, and a sleeve, the sleeve being adapted to locate the nut or the bolt head, so as to prevent it from rotation, and to allow of the bolt being passed through it, and to be inserted and secured endways into one part of the construction so as to abut against the other part, and cause the parts of the construction to be held together upon the bolt or nut being screwed up.

2085 of 1903.—C. H. HEATHCOTE, C. A. HEATHCOTE, and E. G. HEATHCOTE: *Buildings for Storing Cotton and other Baled Goods.*
A building for storing cotton and other baled goods, said building being constructed with walls and a bottom of fireproof and waterproof, or substantially fireproof and waterproof material, and being divided by partitions of similar material into separate compartments, in combination with an overhead crane or cranes, traveller or travellers, adapted to lower and raise the baled goods into and from said compartments, and adapted to take or deliver the bales from or to a point beyond the side of the building, and with water mains discharging into each of said compartments, at or towards the top and bottom thereof, and means for controlling the admission of water to said compartments.

2130 of 1903.—J. REID: *Windows.*
This invention relates to ordinary sash and case windows, and it has for its object to provide simple and improved means whereby the sash can be turned inwards for cleaning purposes. For the lower sash, the window frame is made with a channel at each side, in which the sash slides, and these channels only extend up half the height of the sash when the latter is closed down. In the centre of each channel is a feather, which extends up to the height of the top of the sash when the latter is closed. The sash is likewise provided at each side with a channel, which extends from the top of the sash down to a point at or near the centre, and in each channel is a feather, which extends the full length of the sash. At each side of the window the two feathers—that is, the feather on the sash and the feather on the frame, work against each other when the sash is being raised or lowered, and, when the sash is lowered, the ends of the channels on the sash and the frame abut against one another and form a continuous channel, extending the full length of the sash, thereby keeping out rain, etc. When it is desired to turn the sash in order to clean it, it is first raised up until the feathers on it clear the channels on the frame, when it can be turned over on the pivots and cleaned. The upper sash is made and fitted in the same manner.

2711 of 1903.—F. J. BARKER and J. JOHNSON: *Window Sash Fasteners.*
This relates to that class of sash window fasteners wherein a horizontal lever, pivoted to a plate screwed to the bottom rail of the top sash, can be turned at right angles across the line of junction of the two sashes, under a horizontal catch fixed to, or formed with, a plate screwed, or otherwise securely fixed, to the top rail of the bottom sash, so as to prevent the top sash from being lowered or the bottom sash from being raised, until the said lever has been turned on its pivot out of the way of the bottom sash and in a line with the bottom rail of the top sash.

2738 of 1903.—D. WILLIAMS: *Chimney Pieces.*
The object of this invention is to provide means for fixing chimney jambs to the flanged slips in such a manner that the parts can readily be put together. In bolting or screwing the chimney jambs to the flanged slips the jambs are formed with two or more bolts fixed thereto, at suitable distances apart, the said bolts being of a length to engage with cross strips of slate, wood, or iron, the ends of which bear against the inside of the flanged slips, and are tightened thereto by nuts on the bolts; at the same time the jambs are brought against and clamped tight to the front of the flanged slips. The jambs are formed preferably with the thickened parts or projections where the bolts are fixed. The flanged slips are preferably "L" shape, but a straight piece of slate may instead be provided with projections or pieces fixed thereto for the strips to take against. The strips may be screwed or pegged at each end to the flanged slips, to prevent twisting or getting out of truth. The flanged slips are also formed out of one piece of slate of a suitable size by sawing half through the thickness at opposite sides at a suitable distance from the ends, and splitting the slate between the cuts and in a line with the bottom of the same, thus forming two flanged slips of "L" shape as desired.

3305 of 1903.—C. PHILIPPI and H. MAURER: *Automatic Rising Hinges.*
An automatic rising hinge, with continuous lubrication, having a spindle provided with helical-end surfaces, rotarily arranged on a helical bearing surface, the latter serving as a lubricant receptacle in the lower hinge socket by cutting away the spindle or socket.

3443 of 1903.—J. E. PHILLIPS: *Means for Securing and Protecting Windows and the like.*
This invention relates to means for securing windows or entrances to private or other houses in order that they may be protected against burglary. According to this invention, a collapsing set of strong bars of circular form is fitted inside the window, each bar being held at its ends in a slotted plate, in which it can turn freely and travel from end to end. Each slotted plate is connected to the bar immediately below it, and the plates are arranged to collapse one inside the other, so that, when dropped, the bars can collapse into a case fitted to receive them, and secured inside the window at the bottom, so that the apparatus is completely concealed. Cords or other connections fastened over pulleys serve to raise the bars, which, when extended across the window at equal distance, form a screen. On releasing the cord the bars drop into the case.

23,628 of 1903.—H. FOX: *Latches and Combined Locks and Latches for Doors.*
A door latch or combined lock and latch, having the latch bolt head made separate from the lath part of the latch, the end portions of the latch bolt head and of the lath being formed so as to engage together with the latch bolt projecting as a right-hand or as a left-hand latch, in combination with a movable filling-up piece, which, from the outside of the latch case, or combined lock and latch case, can be moved so as either to keep the latch bolt head and lath engaging together or allow of them being disconnected and the bolt head removed and replaced and reconnected to the lath without removing the cover plate from the latch case or combined lock and latch case.

18,736 of 1903.—T. B. JOSEPH: *Cement.*
This invention consists in dissolving arsenic acid in water at about the proportion of 30 lb. to the ton. Stucco or powdered calcined sulphate of calcium is next stirred therein until the same becomes a thick flowing mortar, which can be run from the mortar box into moulds to set. The arsenic acid combines with the calcium sulphate and makes the calcium insoluble. When then the cement has been air dried, the same is soaked in a solution of water containing about 6 lb. of peroxide of barium to the ton of water. The peroxide of barium forms barium sulphate with the sulphur of the calcined sulphate of calcium. The cement is again air dried and then soaked in a solution of water and chloride of ammonia of about 1½ lb. to the ton of water, which operation gives the cement more resistance against heat, and at the same time makes it harder. The cement is again air dried and again soaked in heavy refined petroleum oil, preferably paraffin. The cement should be allowed to soak some time in this oil, after which it is taken out and allowed to dry, as the last operation has the effect of making the cement more impervious to water.

23,466 of 1903.—E. R. PALMER: *Flushing of Water Closets.*
A water closet wherein the flushing pipe, or branches thereof, leads directly to the front of the flushing rim, in lieu of to the rear thereof, whereby the water enters at full pressure within the front of such rim.

23,465 of 1903.—E. R. PALMER: *Flushing Arrangements of Latrine Systems.*
A system of flushing closets, urinals, and the like, wherein the discharge pipe of the flushing tank leads to a "hydraulic flushing main," from which ascending flushing pipes lead to the flushing inlets or flushing points of the closets or urinals, whereby, said hydraulic flushing main being always filled with water, the flushing of all the closets or urinals simultaneously and with equal force is ensured.

23,947 of 1903.—W. GLOSSOP: *Construction of Stones for Use in Railway Platforms, Landing Stages, Docks, Quays, Steps, Landings, and the like.*
This invention relates to the construction of stones for use in railway platforms, landing stages, docks, quays, steps, landings, and the like, the object being to clearly distinguish and define in a permanent manner the edge or limit of such platforms, stages, docks, quays, steps, landings, or the like, thereby facilitating the location of the outer edge or edges during dark or foggy weather, and thus preventing accidents. Hitherto the edges of such platforms, landing stages, docks, quays, and the like have commonly been whitewashed or painted white, but this is soon washed or worn off, becoming indistinct, and, therefore, ineffective and unsatisfactory. To obviate this the stones or slabs used for the above-mentioned purposes are constructed with a permanent white edge or border. This edge or border may be formed of any suitable white granulated material, such as white spar or the like, and it may be moulded in with the body of the slab, which is preferably of artificial stone. Or a suitable slab of artificial stone may be inlaid with any suitable white stone or material, either natural or artificial, or white stone edges may be let into or fixed in any suitable manner to the natural stone commonly used for the above-mentioned purposes; or stone of any other distinctive colour may be used for the purpose of this invention, in combination with either the natural or the artificial stone, or with white edges or strips. In all cases the aforesaid white edge or border may, if desired, be checked, grooved, or roughened in any suitable manner, so as to afford a secure foothold or grip.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

December 4.—By J. CARTER, JONAS, & SONS (at Cambridge).

Cambridge.—32 and 33, Market-hill, and 16, 17, and 18, St. Edward's-passage, business premises; also the "Central Temperance Hotel and Coffee Tavern," area 6,600 ft., f., y.r. 305*l.*	£8,000

December 18.—By G. LOVETT & SONS (at Coventry).

Coventry, Warwick.—18, High-st. (S), f., y.r. 55*l.*	1,210
87, Foleshill-rd., u.t. 84¼ yrs., g.r. 1*l.* 7*s.* 9*d.*, w.r. 14*d.* 18*s.*	205
Meridan, Warwick.—A freehold house, shop, and two cottage tenements, area 970 yds., p. ..	400
A freehold house, area 1,337 yds., y.r. 14*l.*	500

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terraces cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beer-house; p.h. for public-house; o. for offices; s. for shops; ct. for court.

MEETINGS.

SATURDAY, JANUARY 2.

Incorporated British Institute of Certified Carpenters (Carpenters' Hall, London Wall, E.C.).—Monthly meeting. (1) Election of secretary. (2) To decide upon the fee for life membership, and the design of seal to be adopted for the Institute certificate. 6 p.m.

MONDAY, JANUARY 4.

Royal Institute of British Architects.—Fifth General Meeting (business, for members only (a) to proceed with the election of candidates for membership under By-laws 7, 8, and 9. (b) Messrs. G. A. T. Middleton, Butler Wilson, President of the Leeds and Yorkshire Architectural Society, J. W. Beaumont, President of the Manchester Society of Architects, John Woolfall, President of the Liverpool Architectural Society, Edgar G. C. Down, on behalf of the Cardiff, South Wales, and Monmouthshire Architects' Society, and Herbert Davis, on behalf of the York Architectural Society, have given notice that they will bring forward the following motions:—(1) That this Institute is in favour of the general principle of the compulsory examination and registration of architects. (2) That a Committee be appointed to consider what steps should be taken to give effect to this principle, and to report thereon to a Special General Meeting before the opening of Parliament. (3) To nominate this Committee. 8 p.m.

Liverpool Architectural Society.—Mr. E. Guy Dawber on "Country Houses," illustrated by lantern slides. 6 p.m.

CONTRACTS AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., supplied by	Tenders to be delivered
District Baths, Leeds-road	Bradford Corporation	F. E. P. Edwards, City Arch., Whitaker Bdgs., Brewery-st., Br'd.	Jan. 4
Alterations to Cottage Baths, Low Moor	do.	do.	do.
Sewerage Works	Wicklow Urban Council	J. Pansing, Town Surveyor, Church Hill, Wicklow	do.
Chancel, &c., St. John's Church, Wakefield	.....	C. W. Richardson, 62, Westgate, Wakefield	do.
Cemetery Chapel and Gateway	Queensbury U.D.C.	T., H., and F. Healey, Architects, Bradford	Jan. 5
Sewers, &c., and Boundary Walls, &c.	do.	J. Drake & Son, Queensbury, near Bradford	do.
Infectious Diseases Hospital, Hoyland Moor	Penistone Hospital Committee	G. A. Wilde, Architect, 9, Bank-street, Sheffield	do.
Fittings & Furniture, New Library, Lower Kelvin-st.	Dublin Corporation	H. Campbell, City Hall, Dublin	do.
Enclosing New Cemetery, Abbeyleix	District Council	G. Finnegan, Clerk to Council, Workhouse, Abbeylix	do.
Scavenging and Team Work (Four Districts)	Mountain Ash U.D.C.	W. G. Thomas, Surveyor, Town Hall, Mountain Ash	do.
Urinal and Latrines	Wallsend Corporation	G. Hollings, Hugh-street, Wallsend	do.
Ironrailing City Hospital, Colinton Mains	Edinburgh Corporation	R. Morham, City Architect, Public Works Office, Edinburgh	do.
Private Street Works	Leeds Corporation	City Engineer's Office, Municipal Buildings, Leeds	do.
Bath Annexes, City Hospital, Leeds-road	Bradford Corporation	F. E. P. Edwards, City Arch., Whitaker Bdgs., Brewery-st. Br'd.	do.
Warehouse, Burnett-street, Bradford	.....	Milnes & France, Architects, 99, Swan-arcade, Bradford	Jan. 6
Taking down and Re-building Wall, &c.	Wardle U.D.C.	T. Burrows, Surveyor, Wardle, Lancs.	do.
Paving, &c., Blenheim-avenue, &c.	Leeds Corporation	City Engineer's Office, Municipal Buildings, Leeds	do.
Macadamising, &c., Avenue Crescent	do.	do.	do.
Water Supply at Hospital Buildings, Craiglockhart	Edinburgh Parish Council	A. Ferrier, Parish Council Chambers, Edinburgh	Jan. 7
Steam Heating ,, ,, ,,	do.	do.	do.
Drainage ,, ,, ,,	do.	do.	do.
300 Yards Cube of Surface Flints, Melcombe Regis	Weymouth Town Council	R. N. Howard, Town Clerk, Weymouth	do.
Water Sup., Heat. & Drain. CraiglockhartPoorhouse	Edinburgh Parish Council	A. Ferrier, Parish Council Chambers, Edinburgh	do.
Villa Residence and Stables, Crescent-road, Llandilo	Mountain Ash U.D.C.	A. S. Williams, Architect, Llandilo	Jan. 8
Accom. for Nurses at South-Eastern Ambulance Stn.	Metropolitan Asylums Board	T. W. Aldwinkle & Son, 20, Denman-st., London Bridge, S.E.	Jan. 9
10-ton Weighbridge at Refuse Destructor Works	East Ham U.D.C.	A. H. Campbell, Engineer, Town Hall, East Ham	do.
Repairs, &c., Columbkille Church, co. Longford	.....	J. G. Skipton, C.E. Vicarage, Gowna, co. Cavan	do.
Mild Steel Angle Racks, Port Dundas Electric. Wks.	Glasgow Corporation	W. A. Chamen, Engineer, 75, Waterloo-street, Glasgow	Jan. 11
Drainage Works at Granton (Section 2)	Edinburgh & Leath Gas Commis.	W. R. Herring, M. Inst. C.E., New-street Works, Edinburgh	do.
Alterations to Police Station, Bury St. Edmunds	West Suffolk Standing Joint Com.	A. A. Hunt, County Arch., 51, Abbeygate-st., Bury St. Edmunds	do.
Cottage, Dungannon Junction	G.N.R. Co., Ireland	W. H. Mills, Engineer, Amiens-street Terminus, Dublin	do.
New Stabling, Wkshops, Additions, &c., to Fire Stn.	Barnes U.D.C.	Council's Engineer, High-street, Mortlake	Jan. 12
Ashold and Cole Valley Works (Contract 47)	B'ham, Tame, and Rea D.D. Board	J. D. Watson, Engineer to Board, Tyburn, Burnham	do.
Workhouse Extension, Harrow-road	Paddington Guardians	F. J. Smith, F.R.I.B.A., Parliament-mansions, Victoria-st., S.W.	do.
Stabling, Workshops, &c., 1, High-street, Mortlake	Barnes U.D.C.	G. Bruce Tomes, Surveyor Council Offices, High-street, Mortlake	do.
Extension of Car Shed, &c.	Southend Corporation	E. J. Elford, Borough Engineer, Southend-on-Sea	do.
Offices for Supt. at Sanitary Depot, Portwood	Stockport Cleansing Committee	J. Atkinson, Borough Surveyor, Stockport	do.
Alterations, &c., Argyll Hotel, Fort William	D. Rankin	L. and J. Falconer, Architects, Fort William	do.
Street Improvement Works	Bromley Boro' Council	Boro' Engineer, Municipal Offices, Bromley	do.
Roadmaking and Paving Works	Willesden District Council	Engineer to the Council, Public Offices, Dyne-road, Kilburn, N.W.	do.
Erect. of Cottage for Engineer, Grove Hos., Tooting	Metropolitan Asylums Board	Office of the Board, Embankment, E.C.	Jan. 13
Roadmaking Works, Park Hospital, Lewisham	do.	do.	do.
Additions to Coal Stores, S.W. Hospital, Stockwell	do.	do.	do.
Erect. of Cotge. for Engineer, Brook Hos., Woolwich	do.	do.	do.
Cottage, Brook Hospital, Shooter's Hill	Metropolitan Asylums Board	W. T. Hatch, Engineer and Surveyor to Board	do.
Cottage, Grove Hospital, Tooting-grove	do.	do.	do.
Ad. to Stm. & Ho. Coal Bdgs., S.W. Hos., Stockwell.	do.	do.	do.
Shop and Stores, Somerset-road, Coventry	Perseverance Co-operation Society	Harrison & Hattrell, Architects, 23, Hertford-street, Coventry	Jan. 14
Taking Down and Re-erecting Council's Offices	Mountain Ash U.D.C.	J. H. Phillips, Architect, Clive-chambers, Windsor-place, Cardiff	Jan. 18
Mercantile Marine Office, Royal Albert Dock	Commiss. of H.M. Office of Wks.	J. B. Westcott, H.M. Office of W'ks, Storeys Gate, West'ster, S.W.	Jan. 19
Chapel, Victoria-street, Trealaw	.....	O. H. Evans, Architect, P.O. Chambers, Pontypridd	Jan. 21
Restoration of Shaftesbury-road School	East Ham Education Committee	R. L. Curtis, Architect, 120, London Wall, Moorgate-st., E.C.	Jan. 24
Furniture, Infectious Diseases Hospital Seacroft	Sanitary Committee, Leeds Corp.	W. J. Jeeves, Town Clerk, Leeds	Jan. 25
Composition and Terra Cotta Bricks, &c.	Edinburgh & Leith Gas Commis.	W. R. Herring, M. Inst. C.E., New-street Works, Edinburgh	do.
Cast Iron Main Pipes, &c.	Devonport Corporation	Stevenson & Burstal, 38, Parliament-street, London	Jan. 30
Excavation for Pipes, &c.	do.	do.	do.
200 Tons of Iron Slag	Tynemouth Corporation	J. F. Smillie, Borough Surveyor, Tynemouth	No date.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
Clerk of Works	Borough of Hammersmith	£4 per week	Jan. 9
Person to select Timber, &c.	Fulham Boro' Council	£3 10s. per week	do.
Assistant Engineer for P.W. Dept., Hong-Kong	Crown Agents for Colonies	£360 &c.	Jan. 11
Clerk of Works	Aylesbury R.D.C.	£3 3s. per week	do.
Engineering Assistant, City Surveyor's Department	Public Works Com., Birmingham	£4 per week	Jan. 12
Assistant	L.C.C.	£6 per week	Jan. 21
Clerk of Works	Corporation of Dublin	£3 3s. per week	Feb. 4
Architectural Assistant	Shanghai Municipal Council	300 Shanghai Taels per month	No date

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, iv. *Contracts*, iv. vi. viii. x. *Public Appointments*, xviii.

MEETINGS—*continued.*

TUESDAY, JANUARY 5.

Institute of Sanitary Engineers, Ltd. (*Lectures in Practical Sanitary Science*).—Mr. B. R. Tucker on "Lighting." 7 p.m.

The Institute of Builders.—Finance Committee. 3 p.m. Council. 3.30 p.m.

WEDNESDAY, JANUARY 6.

Builders' Foremen and Clerks of Works Institution. Ordinary meeting of the members. 8 p.m.

FRIDAY, JANUARY 8.

Architectural Association.—Mr. Hugh Stannus on "Egyptian Architecture," illustrated by lantern views. 7.30 p.m.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Hard Stocks	1 16 6	per 1000 alongside, in river.
Rough Stocks and Grizzles	1 13 0	,, ,, ,,

BRICKS, &c.—*continued.*

	£ s. d.	
Facing Stocks	2 12 0	per 1,000 alongside, in river.
Shippers	2 5 0	,, ,,
Flettons	1 10 0	,, at railway depot.
Red wire Cuts	1 13 0	,, ,, ,,
Best Fareham Red	3 12 0	,, ,, ,,
Best Red Pressed Ruabon Facing	5 0 0	,, ,, ,,
Best Blue Pressed Staffordshire	4 4 0	,, ,, ,,
Do. Bullnose	4 10 0	,, ,, ,,
Best Stourbridge Fire Bricks	4 8 0	,, ,, ,,

BRICKS (*continued*)—

	£ s. d.	
GLAZED BRICKS.		
Best White and Ivory Glazed Stretchers	13 0 0	per 1000 at railway depot.
Headers	12 0 0	„ „ „
Quoins, Bullnose, and Flats	17 0 0	„ „ „
Double Stretchers	19 0 0	„ „ „
Double Headers..	16 0 0	„ „ „
One Side and two Ends	19 0 0	„ „ „
Two Sides and one End	20 0 0	„ „ „
Splays, Chamfered, Squints .	20 0 0	„ „ „
Best Dipped Salt Glazed Stretchers and Headers	12 0 0	„ „ „
Quoins, Bullnose, and Flats	14 0 0	„ „ „
Double Stretchers	15 0 0	„ „ „
Double Headers..	14 0 0	„ „ „
One Side and two Ends	15 0 0	„ „ „
Two Sides and one End	15 0 0	„ „ „
Splays, Chamfered, Squints..	14 0 0	„ „ „
Second Quality White and Dipped Salt Glazed	2 0 0	„ „ less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	6 0	„ „
Best Portland Cement	30 0	per ton, delivered.
Best Ground Blue Lias Lime	21 0	„ „

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime..... 11s. 6d. per yard, delivered.
Stourbridge Fire Clay in sacks 27s. 6d. per ton at rly. dpt.

STONE.

	s. d.	
BATH STONE—delivered on road waggons, Paddington depot.....	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms depot	1 8½	„ „
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road waggons, Paddington depot, Nine Elms depot, or Pimlico Wharf..	2 1	„ „
White Basebed, delivered on road waggons, Paddington depot, Nine Elms depot, or Pimlico Wharf ..	2 2½	„ „

	s. d.	
Ancaster in blocks	1 11	per ft. cube, deld. rly. depot.
Beer in blocks	1 6	„ „
Greenshill „	1 10	„ „
Darley Dale in blocks ..	2 4	„ „
Red Corsehill „	2 5	„ „
Closeburn Red Freestone	2 0	„ „
Red Mansfield „	2 4	„ „

YORK STONE—*Robin Hood Quality.*

	s. d.	
Scappled random blocks	2 10	per ft. cube, deld. rly. depot.
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per foot super.
6 in. rubbed two sides ditto, ditto	2 6	„ „
3 in. sawn two sides slabs (random sizes)	0 11½	„ „
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½	„ „
1½ in. to 2 in. ditto, ditto	0 6	„ „
Scappled random blocks	3 0	per ft. cube „
6 in. sawn two sides, landings to sizes (under 40 ft. super.)	2 8	per ft. super. „
6 in. rubbed two sides Ditto	—	„ „
3 in. sawn two sides slabs (random sizes)	1 2	„ „
2 in. self-faced random flags	0 5	„ „
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube.
„ „ „ 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depot.
„ „ „ 3 in. do.	1 2½	„ „

SLATES.

in. in.	£ s. d.	
20 × 10 best blue Bangor	13 2 6	per 1000 of 1200 at r. d.
20 × 12 „ „	13 17 6	„ „
20 × 10 best seconds „	12 15 0	„ „
20 × 12 „ „ „	13 10 0	„ „
16 × 8 best „ „	7 0 0	„ „
20 × 10 best blue Portmadoc	12 12 6	„ „
16 × 8 best blue Portmadoc	6 12 6	„ „
20 × 10 best Eureka unfading green ..	15 2 6	„ „
20 × 12 best Eureka unfading green ..	17 2 6	„ „
18 × 10 „ „	12 10 0	„ „
16 × 8 „ „	10 5 0	„ „
20 × 10 permanent green	11 10 0	„ „
18 × 10 „ „	9 10 0	„ „
16 × 8 „ „	6 10 0	„ „

TILES.

	s. d.	
Best plain red roofing tiles ..	42 0	per 1000 at rly. depot.
Hip and Valley tiles ..	3 7	per doz. „ „
Best Broseley tiles.....	50 0	per 1000 „ „
Do. Ornamental tiles	52 6	„ „
Hip and Valley tiles ..	4 0	per doz. „ „
Best Ruabon red, brown or brindled do. (Edwards)	57 6	per 1000 „ „
Do. Ornamental do.	60 0	„ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 0	„ „ „
Best Red or Mottled Staffordshire do. (Peakes)	51 9	per 1000 „ „
Do. Ornamental do.	54 6	„ „
Hip tiles	4 1	per doz. „ „
Valley tiles	3 8	„ „ „
Best "Rosemary" brand plain tiles	48 0	per 1000 „ „

TILES (*continued*)—

	s. d.	
Best Ornamental tiles	50 0	per 1000 at rly. depot.
Hip tiles	4 0	per doz. „ „
Valley tiles	3 8	„ „ „

WOOD.

	At per standard. £ s. d.	£ s. d.
Deals : best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.....	15 10 0	16 10 0
Deals : best 3 by 9.....	14 10 0	15 10 0
Battens : best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0	12 10 0
Battens : best 2½ by 6 and 3 by 6..	0 10 0	less than 7 in. and 8 in.
Deals : seconds	1 0 0	less than best
Battens : seconds	0 10 0	„ „ „
2 in. by 4 in. and 2 in by 6 in. ..	9 0 0	9 10 0
2 in. by 4½ in. and 2 in. by 5 in...	8 10 0	9 10 0
Foreign Sawn Boards—		
1 in. and 1½ in. by 7 in.....	0 10 0	more than battens.
¼ in.....	1 0 0	„
Fir timber : best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.).....	3 12 6	3 15 0
Small timber (6 in. to 8 in.)	3 0 0	3 10 0
Swedish balks	2 15 0	3 0 0
Pitch-pine timber (30 ft. average)..	3 5 0	3 15 0

JOINERS' WOOD.

	At per standard.	
White Sea : first yellow deals, 3 in. by 11 in.....	23 0 0	24 0 0
3 in. by 9 in.....	21 0 0	22 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	18 10 0
Second yellow deals, 3 in. by 11 in.	18 10 0	20 0 0
„ „ 3 in by 9 in.	17 10 0	19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	15 10 0	16 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0
Petersburg : first yellow deals, 3 in. by 11 in.	21 0 0	22 10 0
Do. 3 in. by 9 in.....	18 0 0	19 10 0
Battens.....	13 10 0	15 0 0
Petersburg : second yellow deals, 3 in. by 11 in.....	16 0 0	17 0 0
Do. 3 in. by 9 in.	14 10 0	16 0 0
Battens	11 0 0	12 10 0
Third yellow deals, 3 in. by 11 in.....	13 10 0	14 0 0
Do. 3 in. by 9 in.	13 0 0	14 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg :—		
First white deals, 3 in. by 11 in..	14 10 0	15 10 0
„ „ 3 in. by 9 in..	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Second white deals, 3 in. by 11 in	13 10 0	14 10 0
„ „ 3 in. by 9 in.	12 10 0	13 10 0
„ „ battens	9 10 0	10 10 0
Pitch-pine : deals	16 0 0	18 0 0
Under 2 in. thick extra.....	0 10 0	1 0 0
Yellow Pine—First, regular sizes	33 0 0	upwards.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube..	0 3 6	0 4 6
Danzig and Stettin Oak Logs—		
Large, per ft. cube.....	0 2 6	0 3 6
Small „ „	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube..	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch.....	0 0 7	0 0 8
¼ in. do. do.	0 0 6½	—
Dry Mahogany—Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	17 0 0	21 0 0
American Whitewood Planks— per ft. cube.....	0 4 0	—

Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	0 17 6
1 in. by 7 in. yellow, planed and matched	0 14 0	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	1 1 6
1 in. by 7 in. white, planed and shot	0 11 6	0 13 6
1 in. by 7 in. white, planed and matched	0 12 0	0 14 0
1¼ in. by 7 in. white, planed and matched	0 14 6	0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	0 13 6
¾ in. by 7 in. do. do. do.	0 14 0	0 18 0
1 in. by 7 in. white do. do.	0 10 0	0 11 6
1 in. by 7 in. do. do. do.	0 11 6	0 13 6

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 5 0 ..	7 5 0
Compound Girders, ordinary sections	8 2 6 ..	9 5 0
Angles, Tees and Channels, ordinary sections	7 17 6 ..	8 17 6
Flitch Plates	8 5 0 ..	8 15 0
Cast Iron Columns and Stanchions including ordinary patterns ..	7 2 6 ..	8 5 6

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON—		
Common Bars	7 10 0 ..	8 0 0
Staffordshire Crown Bars, good merchant quality	8 0 0 ..	8 10 0
Staffordshire "Marked Bars"	10 10 0 ..	—
Mild Steel Bars	8 15 0 ..	9 5 0
Hoop Iron, basis price	9 5 0 ..	9 10 0
„ „ galvanised	17 10 0 ..	—

(*And upwards, according to size and gauge.)

Sheet Iron (Black)—		
Ordinary sizes to 20 g.	9 15 0 ..	—
„ „ 24 g.	10 15 0 ..	—
„ „ 26 g.	12 5 0 ..	—

METALS (*continued*)—

	Per ton, in London. £ s. d.	£ s. d.
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes—6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0 ..	—
Ordinary sizes to 22 g. and 24 g	13 5 0 ..	—
„ „ 26 g.	14 5 0 ..	—
Sheet Iron, Galvanised, flat, best quality—		
Ordinary sizes to 20 g.	16 0 0 ..	—
„ „ 22 g. and 24 g.	16 10 0 ..	—
„ „ 26 g.	18 0 0 ..	—
Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 8 ft. 20 g	12 15 0 ..	—
„ „ 22 g. and 24 g.	13 5 0 ..	—
„ „ 26 g.	14 0 0 ..	—
Best Soft Steel Sheets, 6ft. by 2ft. to 3 ft. by 20 g. and thicker..	11 15 0 ..	—
Best Soft Steel Sheets, 22 g. & 24 g	12 15 0 ..	—
„ „ „ 26 g	14 0 0 ..	—
Cut nails, 3 in. to 6 in.....	9 5 0 ..	9 15 0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3lb. and up	13 17 6 ..	—
Pipe in coils	14 7 6 ..	—
Soil pipe	16 17 6 ..	—
Compo pipe	16 17 6 ..	—
ZINC—Sheet—		
Vieille Montagne .....ton	26 5 0 ..	—
Silesian	26 0 0 ..	—

	£ s. d.	
COPPER—		
Strong Sheet ..... per lb.	0 0 10½ ..	—
Thin ..... „	0 0 11½ ..	—
Copper nails..... „	0 0 11 ..	—
BRASS—		
Strong Sheet ..... per lb.	0 0 10 ..	—
Thin „ ..... „	0 0 11 ..	—
TIN—English Ingots .... „	0 1 3 ..	—
SOLDER—Plumbers' .... „	0 0 6 ..	—
Tinmen's ..... „	0 0 8 ..	—
Plowpipe ..... „	0 0 9 ..	—

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds.....	2d.	per ft. delivered.
„ fourths	1½d.	„ „
21 oz. thirds.....	3d.	„ „
„ fourths	2½d.	„ „
26 oz. thirds.....	3½d.	„ „
„ fourths	3d.	„ „
32 oz. thirds.....	4½d.	„ „
„ fourths	4d.	„ „
Fluted sheet, 15 oz.	2½d.	„ „
„ 21 oz.	3½d.	„ „
⅛ Hartley's Rolled Plate.....	1½d.	„ „
1/16 „ „ „	2d.	„ „
¼ „ „ „	2½d.	„ „

OILS, &c.

	£ s. d.	
Raw Linseed Oil in pipes or barrels..	per gallon	0 1 8
„ „ „ in drums.....	„	0 1 11
Boiled „ „ in pipes or barrels..	„	0 1 11
„ „ „ in drums.....	„	0 2 2
Turpentine, in barrels	„	0 3 8
„ in drums.....	„	0 3 10
Genuine Ground English White Lead	per ton	19 0 0
Red Lead, Dry	„	19 0 0
Best Linseed Oil Putty.....	per cwt.	0 7 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish.....	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 0
Fine Elastic Carriage	0 12 6
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple.....	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Copal Enamel.....	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan.....	0 16 0
Oak and Mahogany Stain.....	0 9 0
Brunswick Black	0 8 6
Berlin Black.....	0 16 0
Knotting	0 10 0
French and Brush Polish.....	0 10 0

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ALNWICK.—For the conversion of St. James's Manse into schools, &c., for the Managers, St. James's Church, Alnwick. Mr. Geo. Reavell, jun., Alnwick :—

Mason : R. & G. Brown, Amble, Acklington*	£295	0 0
Joiner : J. Short & Son, Alnwick* ..	385	0 0
Plumber : Reavell Bros., Alnwick*	96	7 4
Slater : Mrs. T. Wood, Lisburn-street, Alnwick*	62	7 0
Plasterer : T. H. Darling, Bondgate, Alnwick*	95	0 0
Painter : A. Robertson & Son, Bondgate, Alnwick*	48	0

BRADFORD.—For the erection of a hospital pavilion at workhouse, Horton-lane, for the Guardians. Mr. Fred Holland, engineer, 11, Parkinson's-chambers, Hustlergate, Bradford :—

Mason: Jno. Moulson & Sons, Ltd., Bower-street, Bradford‡	£8,740	0	0
Joiner: E. Fearnley & Sons, Trafalgar-street, Bradford	2,180	0	0
Plumber: R. Townend, Croft-street, Bradford	1,299	0	0
Slater: Geo. Wilkinson, 12 Burnett-avenue, Bradford‡	277	15	6
Plasterer: A. & S. Wheater, 85, Hunslet New-road, Leeds‡	1,810	8	6
Painter: Wm. Townson, Holme Top-street, Bradford‡	118	10	9½
Electrician: G. A. Steinthal, 41, Piccadilly, Bradford‡	288	0	0

‡ Revised.

BURNLEY.—For the construction of two sewage tanks at the Altham Sewage Works, etc., for the Corporation. Mr. G. H. Pickles, A.M.I.C.E., Town Hall, Burnley :—

J. H. Heap	£2,765	8	9
Exors. of H. Broadley	2,323	5	10
M. & J. W. Heap	2,066	5	8
J. & G. Dubury	2,062	2	10
G. Hunter	1,916	3	6
Clegg Bros.	1,884	15	0
Thos. Smith, Burnley*	1,720	0	0

CARLISLE.—For erecting out-offices, Ashley-street Schools, for the Education Committee. Mr. H. C. Marks, surveyor, 36, Fisher-street, Carlisle :—

Wm. Baty	£169	18	3	J. & R. Bell	£144	12	3
Jas. Beaty	164	0	0	E. J. Hill	143	0	0
Wm. Batey	154	0	0	John Laing & Son	140	0	0
J. H. Reed, Sons, & Co.	152	3	6	Wm. Latimer	153	9	2
Joseph Hindson	151	3	0	G. Hill & Sons*	138	11	9

[All of Carlisle.]

COVENTRY.—For extension of bays 6 & 7, Upper York-street, for Messrs. Alfred Herbert, Ltd. Messrs. Tait and Herbert, architects, Leicester and Coventry :—

Hancox & Co.	£1,659	Isaac & Son	£1,526
R. Wootton	1,650	Bowles & Son, Leicester*	1,470
C. Garlick	1,611		
Gray Hill	1,586		

For Bay 18.

R. Wootton	£940	0	Kelley & Son £906 10
Isaac & Son	910	10	Gray Hill* 890 0

[All of Coventry.]

COVENTRY.—For machine-shop extension for "Premier" Cycle Co. Messrs. Tait & Herbert, architects, Leicester and Coventry :—

Hancox & Co.	£605	Isaac & Son	£550
R. Wootton	605	Gray Hill	549
Kelley & Son	572	Bowles & Son*	534
C. Garlick	570		

For New Scouring Shop.

Utley	£326	Kelley & Son	£238
R. Wootton	280	Isaac & Son*	211
Hancox & Co.	241		

EAST GRINSTEAD.—For street works, Cantelupe-road (portion), De la Warr-road (portion), and Chequer-road, for the Urban District Council. Mr. W. E. Woollam, Engineer and Surveyor, Council Offices, London-road, East Grinstead. Quantities by the Surveyor.

	Contract No. 1 £ s. d.	Contract No. 2 £ s. d.
A. C. Soan	2,303 19 11	374 5 9
W. Langridge	2,257 12 6	335 5 0
E. H. King	2,202 13 4	326 17 10
J. S. Pickard	2,101 15 10	281 0 0
C. H. Gasson	2,049 15 8	323 17 0
Lawrence & Thacker	2,030 2 6	383 16 9
C. S. Jenks	2,025 2 2	325 1 2
A. Catley	1,953 2 4	320 0 0
Peerless Dennis Co.	1,858 10 0	323 0 0
H. Young	1,804 16 0	264 18 0

LEEK.—For the erection of a caretaker's house on the Town's Yard, for the Urban District Council. Mr. W. E. Beacham, C.E., surveyor :—

Thos. Grace	£500	Jas. Heath*	£325
H. Wilson	349	Wm. Turner	310
S. Salt	337		

[All of Leek.]

[Surveyor's estimate, £350.]

LONDON.—For the erection of a warehouse on the East Quay of the Regent's Canal Dock, for the Regent's Canal and Dock Company, under the supervision of Mr. John Glass, manager. Plans, &c., by Messrs. Thomas & Thomas, Paddington :—

Perry & Co.	£3,131	Patman & Fotheringham	£2,679
Bull & Esdaile	2,900	Watts, Johnson, & Co.	2,648
W. Gladding	2,871	Chessum & Sons	2,634
J. R. Ward	2,773	G. Godson & Sons	2,596
Richards & Co.	2,749	Sheffield Bros.*	2,595
Kirk & Randall	2,744		

LONDON.—For making up roadway, paving footways of Dundalk-road, and for other work, for Deptford Borough Council :—

Fry Bros., Norman Road, Greenwich, S.E. £873 0 0

LONDON.—For forming, paving, and kerbing portions of footways in Woodberry Down, Stoke Newington, N., for the Borough Council. Mr. W. F. Loveday, Borough Surveyor, Town Hall, Milton-road, Stoke Newington :—

Imperial Stone Co.‡	£751	2	9
Adamant Stone and Paving Co.	748	10	9
Griffiths & Co., Ltd.	712	19	0
Grounds & Newton	702	6	0
Patent Victoria Stone Co.§	685	5	3
Empire Stone Co.	670	16	6
Geo. Porter	669	17	10
F. Barry	612	18	4
A. T. Catley & Co.‖	585	0	0

‡ "Imperial" stone. § For indured paving; add £97 16s. if Victoria st s used. ‖ For Cumberland stone: if "Imperial stone is used add £75.

MALLOW (Ireland).—For erecting sixteen artisans, dwellings for the Urban District Council. Mr. Brian E. F. Sheehy, architect, 57, George-street, Limerick :—

C. Kelleher	£4,000	John O'Keeffe, Mallow, co. Cork*	£2,160
J. J. Coffey	2,791		

REDRUTH.—For erecting business premises, Fore-street, Redruth, for Mr. W. Snell. Mr. Sampson Hill, architect, Green Lane, Redruth :—

R. Jacob	£1,115 0 0	Hodge & Opie*	£1,012
S. Head	1,089 10 0	T. Martin	690
J. Odgers	1,036 0 0		

[All of Redruth. Terra-cotta facings and iron girders and columns extra to above prices.]

SOUTHEND-ON-SEA.—For constructing an 18in. stoneware storm-water pipe sewer about 700 yards in length, High-street and Pier-hill, for the Corporation. Mr. E. J. Elford, Borough Surveyor, Southend-on-Sea :—

Buxton & Jenner	£966	W. Iles, Southend*	£850
J. Jackson	902	J. Summerfield	806
Philbey	933		

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